1896.

NEW SOUTH WALES.

VOTES

AND

PROCEEDINGS

OF THE

LEGISLATIVE ASSEMBLY

DURING THE SESSION

OF

1896,

WITH THE VARIOUS DOCUMENTS CONNECTED THEREWITH.

IN FIVE VOLUMES.

VOL. IV.

SYDNEY:
WILLIAM APPLEGATE GULLICK, GOVERNMENT PRINTER, PHILLIP-STREET.

1896.

548 (*d*)

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

VOTES AND PROCEEDINGS.

SESSION 1896.

(IN FIVE VOLUMES.)

TABLE OF CONTENTS.

VOL. IV.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

ROYAL COMMISSION ON FISHERIES.

SUPPLEMENTARY REPORT

OF THE

ROYAL COMMISSION

APPOINTED ON THE

20TH NOVEMBER, 1894,

TO INQUIRE AND REPORT UPON THE BEST MEANS OF DEVELOPING THE

MARINE AND OTHER FISHERIES OF NEW SOUTH WALES,

AND AS TO THE BETTER REGULATION OF THE FISHING INDUSTRY BY LAW;

TOGETHER WITH THE

MINUTES OF EVIDENCE AND AN ABBREVIATED DESCRIPTION OF THE

PRINCIPAL FOOD FISHES OF NEW SOUTH WALES.

(ILLUSTRATED BY PHOTO-LITHOGRAPHS).

Printed under No. 1 *Report from Printing Committee,* 21 *May,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

1896.

131—

CONTENTS.

INDEX.

LIST OF WITNESSES.

DEEP-SEA FISHERIES.

WHALING.

THE OFFING FISHERIES—WELL-BOAT FISHING, TRAWLING, &c.

THE INLAND FISHERIES.

LAKE GEORGE.

THE SNOWY RIVER.

THE MURRAY RIVER.

THE MURRUMBIDGEE RIVER.

MARKET ACCOMMODATION AND GENERAL EVIDENCE.

MAP.

FOOD FISHES OF NEW SOUTH WALES.

4

EXTENSION OF COMMISSION.

ROYAL COMMISSION TO INQUIRE INTO THE FISHING INDUSTRY.

WHEREAS the time appointed for the return of the Commission in the above matter was, by an instrument dated the twenty-sixth day of March last, extended for a period of three months: And whereas it is necessary to extend the same still further: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the Commission are to make their return to and for a further period of three months beyond the time in and by the aforesaid instrument appointed for the purpose—to take effect from the 4th ultimo.

Given under my hand at Government House, Sydney, this twenty-first day of August, one thousand eight hundred and ninety-five.

FREDK. M. DARLEY,
Lieutenant-Governor.

By His Excellency's Command,
JAMES N. BRUNKER.

ROYAL COMMISSION TO INQUIRE INTO THE FISHING INDUSTRY.

WHEREAS the time appointed for the return of the Commission in the above matter was, by an instrument dated the twenty-first day of August last, extended for a period of three months: And whereas it is necessary to extend the same still further: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the Commission are to make their return to and for a further period of six weeks beyond the time in and by the aforesaid instrument appointed for the purpose—to take effect from the 4th October.

Given under my hand at Government House, Sydney, this twenty-seventh day of September, one thousand eight hundred and ninety-five.

FREDK. M. DARLEY,
Lieutenant-Governor.

By His Excellency's Command,
JAMES N. BRUNKER.

ROYAL COMMISSION TO INQUIRE INTO THE FISHING INDUSTRY.

WHEREAS the time appointed for the return of the Commission in the above matter was, by an instrument dated the twenty-seventh day of September last, extended for a period of six weeks: And whereas it is necessary to extend the same still further: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the Commission are to make their return to and for a further period of one month beyond the time in and by the aforesaid instrument appointed for the purpose—to take effect from the 15th ultimo.

Given under my hand at Government House, Sydney, this third day of December, one thousand eight hundred and ninety-five.

HAMPDEN.

By His Excellency's Command,
JAMES N. BRUNKER.

ROYAL COMMISSION ON FISHERIES.

MINUTES OF PROCEEDINGS.

SUPPLEMENTARY REPORT.

WEDNESDAY, 26 *JUNE*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

In view of the important nature of the work still devolving upon the Commission, it was resolved that a letter bearing the President's signature should be forwarded to the Principal Under Secretary, asking him to invite the Chief Secretary to extend the period of the Commission's operations for a further term of three months.

[The Commission, at 1 p.m., adjourned until 11 a.m. on Monday, 1st July.]

MONDAY, 1 *JULY*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission considered and approved of a letter which it was proposed should be forwarded to fishermen at various fishing centres, asking them to furnish replies to questions respecting the habits, spawning times, &c., of different kinds of fish.

The Secretary was instructed to forward copies of the letter in question to those fishermen whose evidence had been taken by the Commission, and to others in various parts of the Colony.

[The Commission, at 1 p.m., adjourned until 11 a.m. on Thursday, 4th July.]

THURSDAY, 4 *JULY*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary, in reply to the President, reported that no communication had been received from the Chief Secretary with reference to the extension of three months asked for by the Commission to enable them to continue their investigations into the condition of the fishing industry in New South Wales.

The Commission adjourned, pending the receipt of a letter from the Chief Secretary, announcing the decision arrived at by the Cabinet regarding the application for the extension of time necessary for the prosecution of the labours of the Commission.

FRIDAY, 23 *AUGUST*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from the Principal Under Secretary, transmitting an instrument under the hand of His Excellency the Lieutenant Governor, with the advice of the Executive Council, extending the time "within which the Report of the Royal Commission to enquire into the Fishing Industry is to be made for a further period of three months beyond the time appointed for the purpose, to take effect from the 4th ultimo."

The Commission, after deliberation, decided to prepare an abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 2·30 p.m., adjourned until Tuesday, 27th August.]

TUESDAY,

6

TUESDAY, 27 *AUGUST*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to consider the abbreviated popular description of the principal food fishes of the Colony, which it had been decided to prepare in connection with their Supplementary Report.

The Commission also directed that the abbreviated popular description should be illustrated by photo-lithographs of the fishes described.

[The Commission, at 3 p.m., adjourned until Wednesday, 28th August.]

WEDNESDAY, 28 *AUGUST*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

The Commission decided to visit the fisheries at Lake George, with a view of inquiring into their capabilities as an adjunct to the fish supply of the Colony.

[The Commission, at 3 p.m., adjourned until Thursday, 29th August.]

THURSDAY, 29 *AUGUST*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

A letter was received from J. M. Chanter, Esq., M.P., pointing out the extent to which the Murray River fisheries were being depleted for the benefit of Victoria.

The Secretary was instructed to write Mr. Chanter, informing him that the matter was one which was engaging the attention of the Commission, as would be seen from a perusal of that portion of the Commission's Report (pp. 40, 41) relating to the inland fisheries; and further that the Commission purposed, at a later date, visiting the Murray River in order to become personally acquainted with the requirements of that fishery.

[The Commission, at 3 p.m., adjourned until Friday, 30th August.]

FRIDAY, 30 *AUGUST*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 3 p.m., adjourned until 9 p.m., when they proceeded by the Southern Mail to Bungendore, *en route* to Lake George.

SATURDAY, 31 *AUGUST*, 1895.

The Commission met at the Lake George Hotel, Bungendore, at 8·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded in conveyances to Lake George, where they embarked on a steam launch and inspected the southern and eastern shores of the lake, and the creeks running into it.

[The Commission adjourned at 7 p.m.]

SUNDAY,

7

SUNDAY, 1 *SEPTEMBER*, 1895.

The Commission met at Lake View House, Lake George, at 9 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission continued their inspection of the Lake George fishery, and examined the western and northern shores of the lake.

[The Commission, at 7 p.m., adjourned until Monday, 2nd September.]

MONDAY, 2 *SEPTEMBER*, 1895.

The Commission met at Lake View House, Lake George, at 9·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took evidence respecting the Lake George fishery.

The following witnesses were sworn and examined:—John Gale, Esq., J.P., Queanbeyan; Mr. William Harry Glover, meteorological observer, Lake George; and Mr. Frederick Nelson, sergeant of police, stationed at Queanbeyan.

[The Commission adjourned at 4 p.m.]

MONDAY, 2 *SEPTEMBER*, 1895.

The Commission met at the Lake George Hotel, Bungendore, at 8 p.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission received a deputation from residents of the Bungendore and Queanbeyan districts, with reference to the desirableness of stocking Lake George with suitable fish, &c.

The members of the deputation (consisting of Messrs. John Gale, J.P., John McAllister, Joseph F. Dignam, John McJennett, and William H. Crow), spoke at length with reference to the question of introducing other fish into the lake; the closure of the creeks and portions of the lake against net-fishing; the appointment of an Inspector of Fisheries to supervise Lake George; the offering of a reward for the destruction of cormorants, pelicans, black shags, cranes, and other fish-eating birds; and the necessity for providing a better and readier means of access to the shores of the lake.

The President, in reply, said it afforded the Commission pleasure to receive the deputation from the inhabitants, and he was especially glad to see that there were gentlemen in the district who took an interest in the fisheries at Lake George. Speaking on behalf of the Commission, he felt at liberty to say that the Commission was fully in accord with all that had been stated. Taking the requests *seriatem*, he might say, with reference to number one, that in regard to the introduction of other species of fish into the waters of Lake George, they would have great pleasure in making a recommendation that this was desirable. It would be a matter for after consideration as to the kinds of fish to be introduced into the lake. They had had it in evidence that there was a probability that the brown trout could be successfully introduced into the lake, and he believed, judging from the conditions of the fishery, that this fish could be successfully introduced. With reference to the protection of the fishery, he thought it was highly essential that a qualified man should be appointed as inspector. The duty of the Commission would be to recommend the appointment of a gentleman who should exercise some supervision and control over the fishery; he did not believe in the appointment of an honorary inspector; it was better to pay a man for services rendered, and then there could be no excuse for neglect of duty. This matter would receive the attention of the Commission, and they would make a recommendation accordingly. He thought a reward should be offered for the destruction of fish-eating birds, and he might say that a provision had been introduced into the Bill recently prepared by the Royal Commission, which would allow of their destruction. With regard to the important question of obtaining a better means of access to the shores of Lake George, he hoped the day was not far off when, in the public interest, a good road would be made right round the foreshores of the lake. Such a work was national in its character and importance, and he considered the people should have access to the shores of this magnificent sheet of water.

Mr. Lindsay G. Thompson said he heartily endorsed all that Mr. Farnell had said, and it would afford him pleasure to co-operate with him on the lines indicated.

Mr. John Gale, on behalf of the deputation, thanked the Commission for the courteous manner in which they had been received.

[The Commission, at 10 p.m., adjourned until Wednesday, 4th September.]

WEDNESDAY,

8

WEDNESDAY, 4 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—
Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 2 p.m., adjourned until Thursday, 5th September.]

THURSDAY, 5 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—
Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 2 p.m., adjourned until Friday, 6th September.]

FRIDAY, 6 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—
Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from Mr. F. J. Gibbins, the lessee of certain oyster beds in the Hunter River, calling attention to the wonderful growth of oysters in the Hunter, and inviting the Commission to inspect the same.

The Secretary was instructed to inform Mr. Gibbins that the Commission would have pleasure in visiting the oyster beds in the Hunter River at an early date.

[The Commission, at 3 p.m., adjourned until Monday, 9th September.]

MONDAY, 9 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—
Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

The Commission decided to visit the oyster beds in the Hunter River on Friday, 13th September, and the Secretary was instructed to make arrangements accordingly.

[The Commission, at 3 p.m., adjourned until Tuesday, 10th September.]

TUESDAY, 10 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:
Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 2 p.m., adjourned until Thursday, 12th September.]

THURSDAY,

THURSDAY, 12 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took further evidence respecting deep-sea fishing, Mr. John Pollard, fisherman, being sworn, and examined.

[The Commission, at 1 p.m., adjourned until Friday, 13th September.]

FRIDAY, 13 *SEPTEMBER*, 1895.

The Commission met at the "Great Northern Hotel," Newcastle, at 1·45 p.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a telegram from the President (Frank Farnell, Esq., M.P.), stating that owing to the late sitting of the Legislative Assembly he was unable to be present with the Commission.

The Commission proceeded to the Back Channel in the Hunter River, where they inspected some of the oyster-beds leased by Mr. F. J. Gibbins, and witnessed several dredgings in different parts of the Channel. The Commission ascertained that the worm disease, which had proved terribly destructive to oysters in this water, was on the decline. The lessee had combatted it for a number of years, and although it was still present in certain places, he was getting it under by constantly working the beds and removing all shell taken from the infected spots. The growth of spat in the Back Channel was shown to be very free and quick, a considerable amount of spawn which had set during the winter having made rapid growth.

[The Commission, at 6 p.m., adjourned until 8 a.m., on Saturday, 14th September.]

SATURDAY, 14 *SEPTEMBER*, 1895.

The Commission met at the " Great Northern Hotel," Newcastle, at 8 a.m.

PRESENT:—

The Hon. Robert Hoddle Driberg White, M.L.C., Acting-President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission continued their inspection of the oyster-beds in the Hunter and proceeded to Fullerton Cove, where several dredgings were made. In Fullerton Cove, as in the Back Channel, the growth of the oyster was very noticeable. The Commission were informed that such a rapidity of growth had not been apparent for years. In consequence of the prevalence of the worm disease the place had been literally cleared of shell, and for over ten years oysters had not been taken from the beds in the Cove. The investigations made by the Commission established the fact that spawn was setting well in Fullerton Cove, which, provided the worm disease did not make its re-appearance, was likely to prove quite as fertile as in past years, when it supplied not only the Sydney but the Melbourne market. The Commission were shown marketable oysters of from nine to twelve months' growth which had been dredged from the Cove, and at one place—the point off Smith's Island—the ground was found to be so prolific that oysters become marketable within nine months of spatting. Mr. Gibbins was said to have leases amounting to 2,200 yards. He had been paying a rental of £22 per annum for these for over ten years, during a large portion of which period he had received no return. In addition to this it was stated by Mr. Hans Andersen, superintendent of Mr. Gibbins' oyster leases, that it was absolutely necessary to keep a special constable on the watch night and day in order to save the beds from the depredations of thieves, who made a practice of stealing the oysters and then offering them for sale in bottles. The Commission expressed themselves as highly gratified at the perseverance and persistence shown by the lessee, Mr. Gibbins, in combatting this worm disease, which had proved so absolutely fatal to oysters in other waters.

[The Commission adjourned at 3 p.m.]

WEDNESDAY, 18 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 1 p.m., adjourned until Thursday, 19th September.]

10

THURSDAY, 19 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·45 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 1 p.m., adjourned until Friday, 20th September.]

FRIDAY, 20 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 12 noon, adjourned until Tuesday, 24th September.]

TUESDAY, 24 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witnesses were examined with respect to the condition of the Woolloomooloo Fish Market :—Senior-constable Thomas Whelan, and Senior-constable Josias Dawe.

[The Commission, at 1 p.m., adjourned until Wednesday, 25th September.]

WEDNESDAY, 25 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT :—

Frank Farnell. Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took further evidence with reference to the condition of the Woolloomooloo Fish Market.

John McElhone, Esq., M.P., and Mr. John Thomas Taylor, fisherman, were sworn and examined.

[The Commission, at 1 p.m., adjourned until Friday, 27th September.]

FRIDAY, 27 *SEPTEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, at noon, interviewed the Chief Secretary (Mr. Brunker) with respect to the Fisheries and Oyster Fisheries Regulation Bill, prepared by the Commission (embodied in their Advance Report submitted to Parliament), a deputation from the New South Wales Fishermen's Benefit and Protective Society being present in reference to certain points in the proposed legislation to which they objected.

During the interview certain members of the deputation having expressed a desire to be heard before the Commission, the President decided to summon the following witnesses to give evidence on Wednesday, 2nd October, respecting the matters referred to by them :—Robert Vine, fisherman, Double Bay; P. Richardson, fisherman, Glebe Point; and H. Pearce, fisherman, Double Bay.

[The Commission, at 1·45 p.m., adjourned until Wednesday, 2nd October.]

11

WEDNESDAY, 2 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission continued the taking of evidence, the following witnesses being sworn and examined:—Mr. Henry Pearce, fisherman, Double Bay; Mr. Peter Richardson, fisherman, Glebe Point; and Mr. Robert Vine, fisherman, Double Bay.

[The Commission, at 1 p.m., adjourned until Friday, 4th October.]

FRIDAY, 4 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from the Principal Under Secretary, transmitting an instrument under the hand of His Excellency the Lieutenant-Governor, with the advice of the Executive Council, extending the time "within which the Report of the Royal Commission to inquire into the fishing industry of New South Wales is to be made for a further period of six weeks beyond the time appointed for the purpose, to take effect from the 4th inst."

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 1 p.m., adjourned until Wednesday, 9th October.]

WEDNESDAY, 9 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·45 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The following witness was sworn and examined:—Mr. Alfred Brown, fisherman, Brougham-street, Woolloomooloo.

[The Commission, at 1 p.m., adjourned until Tuesday, 15th October.]

TUESDAY, 15 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission decided to pay a visit of inspection to the Snowy River, for the purpose of ascertaining the suitability of those waters for fish propagation and acclimatisation, and the Secretary was instructed to make the necessary arrangements.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 1 p.m., adjourned until 11 a.m., on Wednesday, 16th October.]

WEDNESDAY, 16 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took further evidence respecting the inland fisheries.

John Moore Chanter, Esq., M.P., was sworn and examined.

[The Commission, at 1 p.m., adjourned until Thursday, 17th October.]

THURSDAY,

12

THURSDAY, 17 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq , J.P.

The minutes of the previous meeting were read and confirmed.

The Commission took further evidence respecting the inland fisheries.

Travers Jones, Esq., M.P., was sworn and examined.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

[The Commission, at 9 p.m., left Sydney by mail train *en route* to the Snowy River.]

FRIDAY, 18 *OCTOBER*, 1895.

The Commission met at Dodds' Hotel, Cooma, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq , J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, at 11·45 a.m., proceeded to Buckley's Crossing for the purpose of inspecting the Snowy River, with the object of ascertaining the suitability of its waters for fish propagation and acclimatisation.

[The Commission, having inspected the Snowy River, in the vicinity of Buckley's Crossing, adjourned at 7 p.m., until Saturday, 19th October.]

SATURDAY, 19 *OCTOBER*, 1895.

The Commission met at Boloco Station, Monaro, at 8 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq , J.P.

The minutes of the previous meeting were read and confirmed.

The Commission continued their inspection of other portions of the Snowy River, after which the following witnesses were sworn and examined:—Reuben Uther Bartlett Rose, Esq., Boloco Station, Monaro; Henry Dawson, Esq., solicitor, Sydney; and Henry Charles Merrett, Esq., J.P., Buckley's Crossing.

[The Commission, at 6 p.m., adjourned until Sunday, 20th October.]

SUNDAY, 20 *OCTOBER*, 1895.

The Commission met at Boloco Station, Monaro, at 9 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission, accompanied by G. T. C. Miller, Esq., M.P., and several gentlemen interested in trout acclimatisation, continued their inspection of the Snowy River, visiting Carroll's Corner and other points on the river.

[The Commission, at 6 p.m., adjourned until Monday, 21st October.]

MONDAY, 21 *OCTOBER*, 1895.

The Commission met at Boloco Station, Monaro, at 6 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

[The Commission, at 6·30 a.m., left Boloco Station for Cooma, *en route* to Sydney.]

THURSDAY.

13

THURSDAY, 31 *OCTOBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.

The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their abbreviated popular description of the principal food fishes of the Colony.

The Commission took further evidence respecting the Snowy River Fisheries.

Gustave Thomas Carlisle Miller, Esq , M.P., was sworn and examined.

[The Commission, at 3 p.m., adjourned until Tuesday, 5th November.]

TUESDAY, 5 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission proceeded to consider their Supplementary Report for presentation to His Excellency the Governor.

The following witnesses were sworn and examined:—

Mr. J. Chinnery, fishmonger, Hunter-street, Sydney; and Henry Daniels, Esq., Town Clerk, Sydney.

[The Commission, at 1 p.m., adjourned until Wednesday, 6th November.]

WEDNESDAY, 6 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

Mr. Richard Seymour, Inspector of Nuisances, Sydney, was sworn and examined.

[The Commission, at 1 p.m., adjourned until Thursday, 7th November.]

THURSDAY, 7 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

Mr. Frederick William Smithers, Acting Secretary, Department of Fisheries, was sworn and further examined.

[The Commission, at 1 p.m., adjourned until Friday, 8th November.]

FRIDAY, 8 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq, M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Tuesday, 12th November.]

TUESDAY,

14

TUESDAY, 12 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Wednesday, 13th November.]

WEDNESDAY, 13 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Thomas Mulhall, late Inspector, Department of Fisheries, was sworn and examined.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Thursday, 14th November.]

THURSDAY, 14 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 10·30 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Tuesday, 19th November.]

TUESDAY, 19 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Mr. Herbert Lewis Bridger, Trafalgar-street, Annandale, was sworn and examined.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Tuesday, 26th November.]

TUESDAY, 26 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

Paget Bayley, Esq., late honorary inspector, Department of Fisheries, was sworn and examined.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 3 p.m., adjourned until Wednesday, 27th November.

WEDNESDAY, 27 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 2 p.m., adjourned until Thursday, 28th November.]

THURSDAY,

15

THURSDAY, 28 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President,
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 3 p.m., adjourned until Friday, 29th November.]

FRIDAY, 29 *NOVEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President,
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 3·30 p.m., adjourned until Monday, 2nd December.]

MONDAY, 2 *DECEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President,
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 2 p.m., adjourned until Tuesday, 3rd December.]

TUESDAY, 3 *DECEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President,
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Wednesday, 4th December.]

WEDNESDAY, 4 *DECEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1·15 p.m., adjourned until Thursday, 5th December.]

THURSDAY, 5 *DECEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT:—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 2·30 p.m., adjourned until Friday, 6th December.]

FRIDAY,

16

FRIDAY, 6 *DECEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 11 a.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from the Principal Under Secretary, transmitting an instrument under the hand of His Excellency the Governor, with the advice of the Executive Council, extending the time "within which the Report of the Royal Commission to inquire into the Fishing Industry of New South Wales is to be made for a further period of one month beyond the time in and by the aforesaid instrument appointed for the purpose—to take effect from the 15th ultimo."

The Commission further considered their Supplementary Report for presentation to His Excellency the Governor.

[The Commission, at 1 p.m., adjourned until Friday, 13th December.]

FRIDAY, 13 *DECEMBER*, 1895.

The Commission met at the Offices, Bligh-street, at 2 p.m.

PRESENT :—

Frank Farnell, Esq., M.P., President.
The Hon. Robert Hoddle Driberg White, M.L.C. | Lindsay George Thompson, Esq., J.P.

The minutes of the previous meeting were read and confirmed.

The Commission finally considered and adopted their Supplementary Report for presentation to His Excellency the Governor.

The Supplementary Report was signed, and it was decided to forward the same to the Chief Secretary for transmission to His Excellency the Governor as soon as the evidence was complete.

The Commission directed that there be recorded on the minutes an acknowledgment of the satisfactory manner in which Mr. Walter D. White had carried out his duties as Secretary and Shorthand Writer to the Commission.

[The Commission adjourned *sine die*.]

17

ROYAL COMMISSION ON FISHERIES.

SUPPLEMENTARY REPORT.

To His Excellency The Right Honourable HENRY ROBERT, VISCOUNT HAMPDEN, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

We, the members of the Royal Commission appointed on the 20th day of November, 1894, "to make a diligent and full inquiry as to the best means of developing the Marine and other Fisheries of the Colony, and as to the proper regulation of that industry by law," have the honor to submit the following Supplementary Report :—

Meetings held and witnesses examined.

Subsequent to the date of forwarding our Advance Report to your Excellency we have held fifty-five meetings and examined twenty-seven witnesses.

At a meeting of the Commission held on the 1st July, a letter which it was proposed should be forwarded to fishermen at various fishing centres, asking them to furnish replies to certain questions respecting the habits, spawning times, &c., of different kinds of fish was considered, adopted, and sent accordingly. Some of the information gathered through this channel has been embodied in the Abbreviated Popular Description of the Principal Food Fishes of the Colony, which accompanies this Report. The work in question has been carefully prepared and the illustrations accompanying it have been drawn from photographs of fish specimens specially obtained for the purpose.

Popular Description of Principal Food Fishes.

Deep-sea Fisheries.

We have taken some further evidence with reference to deep-sea fishing, the use of well-boats, and trawling on our coast.

Inland Fisheries.

The Inland Fisheries of the Colony have received considerable attention. We have personally visited and inspected Lake George and the Snowy River, and ascertained the suitability of those waters for fish propagation and acclimatisation. Valuable evidence has been taken with reference to the question of stocking some of the colder streams with trout. This portion of the work of the Commission is referred to under a separate heading.

Monaro waters.

We append a map showing the extent of the Monaro waters system.

Oyster beds in Hunter.

We have also paid a further visit to the Hunter River, and inspected the oyster beds in the Back Channel and in Fullerton Cove, in which places the lessee, Mr. Gibbins, has shown considerable persistence and perseverance in combatting the worm disease.

Woolloomooloo Fish Market.

Additional evidence has been taken with reference to the condition of the Woolloomooloo Fish Market. Mr. John McElhone, M.P., and several other witnesses having expressed a desire to place statements on oath before the Commission respecting the condition of affairs at the market, it was deemed advisable to give them an opportunity of making their views public.

Fisheries and Oyster Fisheries Regulation Bill.

As a result of a deputation from the New South Wales Fishermen's Benefit and Protective Society which waited upon the Chief Secretary on 27th September last, and at which members of this Commission were present, certain provisions in our Fisheries and Oyster Fisheries Regulation Bill and to which they desired to take exception were brought forward. After consultation it was arranged that three members of the deputation should be afforded an opportunity of giving evidence before this Commission. Accordingly the fishermen referred to presented themselves and were examined generally and on the points at issue. After an explanation of

the

18

the special bearing of the several provisions alleged to be objectionable, the witnesses expressed their general satisfaction with the measure. The evidence of these and other witnesses examined by us, respecting the various matters already referred to, is submitted with this Report.

Attached to this Report will be found an Abbreviated Description of the habits, &c., of our Principal Food Fishes, collected from the several sources at our command. In the course of extended inquiries, which we have been able to make during the period of our commission, we have found that so little is known by the majority of persons respecting the fishes which abound in our inlets and on our coast, that we hope our efforts in the direction of supplying that knowledge will prove useful and interesting.

The descriptions are accompanied by photographs and a scale, by which the actual length and other dimensions of each fish represented can be estimated.

As the several questions dealt with are to some extent separate from each other, we have thought it expedient to refer to them under certain specific headings as follows :—

The Deep-Sea Fisheries.

Inquiry not so comprehensive as desired.

We have taken such evidence as was available respecting the deep-sea fisheries, but at the outset we are forced to admit that our inquiry into this most important phase of the fisheries question has not been of the comprehensive nature we wished it to be. We regret the Government have not seen their way clear to place at our disposal the appliances we had suggested as necessary for the institution of an effective investigation of this important branch of the subject. Had such appliances been afforded to us, we feel confident we should have been in a position to make an important recommendation respecting this matter.

Letter to Chief Secretary.

For instance, in a letter having reference to deep-sea fishing, submitted by us to the Chief Secretary in January last, we very strongly emphasised the fact that little or nothing had been done in the direction of encouraging and extending our offing or deep-sea fisheries. "To prosecute our inquiry into the important subject of the deep-sea fisheries, and to carry our investigations to a successful issue," we said, "it is absolutely necessary that a thorough and systematic exploration by means of a completely equipped trawling vessel should be made of the several fishing grounds contiguous to the shore line of the Colony. In this way the Commission expect to ascertain important, highly valuable, and necessary information concerning the quality and habits of the fish tribes frequenting the deep sea, and also hope to be in a position to form an approximately accurate opinion as to the success or otherwise that would attend the employment of steam trawlers in these southern waters."

Cost of steam trawler and well-boat.

The cost of a steam trawler was approximately estimated at about £5,000, and the outlay necessary for the acquisition of a fully-equipped well-boat, which we urged should be acquired for the purpose of demonstrating the suitability of this class of craft for our fisheries, was set down at about £400. Had the vessels in question been placed at our disposal, we are confident we should have been able to throw considerable light upon the possibilities of the offing fisheries ; and our observations would in all probability have been the means of directing attention to the piscine treasures in our own waters, which, as is the case in other countries, could most undoubtedly be made a source of national wealth and individual benefit. The evidence we have taken, coupled with inquiries made in other directions, goes to show that up to date the vast stores of piscine life in our waters have been almost totally ignored ; and further, that when fully developed our marine fishing-grounds, which extend along the entire length of the sea-board—some seven hundred miles—will, beyond all doubt, prove of immense value to the Colony. We greatly deplore the fact that our representations have not had the attention their importance seemed to us to demand.

Value of deep-sea fisheries.

Trawling.

With reference to the advisableness of instituting trawling operations over certain portions along our coast, also to the much vexed question of the existence, or otherwise, of bottoms suitable for trawling, we have obtained trustworthy evidence which warrants us in asserting that such bottoms do exist, and in considerable areas.

For

19

For instance, we have it in evidence that between Newcastle and Port Stephens, off the Shoalhaven River, off the Tuggerah Lakes, and at other places such bottoms exist, and fish are known to abound on each of them. Captain Coulon, who at one time owned a fishing-schooner, the "Dauntless," stated during his examination that there are banks suitable for trawling on which soles, flounders, whiting and flat-head could be caught. From his experience of the New South Wales coast, extending over a period of about thirty-five years, he is of opinion that trawling could be carried out successfully, and there can be no question that the use of the trawl could be largely availed of for the capture of many kinds of good edible fish.

Suitable bottoms or banks.

As we have previously stated, some few attempts have been made to use the trawl in our waters, but it has to be admitted that, as a rule, these experiments were carried out under unfavourable conditions, yet, even so, the result of one experiment with the trawl was looked upon as decidedly promising, as the existence of a true skate was made known, and several John Dorey, a fish of unrivalled quality and flavour, were captured by this means. The result of such attempts as have been made goes to show how little we really know regarding the piscine life of our ocean floor. It is known, however, that various species of ground fish do exist in considerable numbers, and this in itself should be sufficient to warrant the anticipation of successful results from a well-equipped trawling expedition, carried out under suitable weather conditions.

Attempts at trawling.

With respect to this question of trawling in our waters, we desire to record our emphatic opinion that the Government should lose no further time in providing means for the institution of a trawl survey of the coast to test the suitability of some of the known places on which it is believed trawling could be successfully undertaken. Were this done, valuable information would undoubtedly be gained regarding the bottoms, the several families of fish possibly inhabiting or frequenting them, and their economic value.

Government should institute a trawl survey of New South Wales coast.

It is more than probable also that extensive deposits of oysters exist in the deep-sea, and a proper trawl survey might be the means of locating a number of these valuable deposits. Deep-sea deposits of oysters occur in other waters, and in view of the fact that the rocks at the mouth of almost every inlet along our extensive coast-line are freely covered with spat and young oysters, we cannot avoid arriving at the conclusion that extensive deep beds of this valuable mollusc will be found at certain places on the ocean floor. As we have not had the opportunity of making practical investigations into the deep-sea fisheries and deep-sea oyster fisheries, we strongly urge the attention of the Government to this matter. In the absence of sufficient reliable data we can but assume the existence of such fisheries, which, if properly worked and developed, would in all probability lead to the establishment of an immense and ever-expanding industry, which would prove a substantial source of revenue to the State, and afford remunerative employment to a large section of our population.

Deep-sea deposits of oysters.

Existence of fisheries assumed.

We desire to direct attention to the use of the well-boat as a means of conveying live fish from outlying centres to the Metropolitan and other markets. For too long have the bulk of the New South Wales fishermen confined their attention merely to the inlets, rivers, and harbours in more or less close proximity to Sydney. Speaking generally it is to be inferred that their neglect of the magnificent fishing grounds which undoubtedly exist, almost on the margin of our ocean shores, is largely owing to the fact that they have been, and still are, unprovided with the means of keeping their fish in a live state when captured. As a consequence of the non-employment of well-boats in our several fisheries, the loss of fish—the most perishable of our articles of food—has been enormous. Tons and tons of this valuable food have been annually lost to the community, especially during the summer season, owing to the lack of proper means of conveying them in a sound condition to the Metropolitan and inland markets. A more general employment of fishing craft suitably fitted with wells would obviate much of this loss, and prove a distinct gain both to the fishermen and to the consumer. Were well-boats more extensively employed by our fishermen, advantage could be taken of the magnificent though little known grounds which exist at various places off our coast line. Right up to the Solitaries, and far to the north of those Islands, even to the boundary of the Colony, there are splendid fishing grounds; many

Use of the well-boat.

Enormous loss of fish.

Fishing grounds north of Sydney.

20

many of which have never been properly tested. In some localities, such as the grounds off the Fish Rock at Smoky Cape, huge black rock cod are found in quantities, some weighing from 100 lb. to 150 lb. Again, on the Sandon Shoals big rock cod are known to be very plentiful. The bottom is reported to be a coral formation, and the large cod frequent the place in great numbers. Enormous blue-nose whiting and very large crabs are to be found in the Sandon River, and between Woody Head and the entrance to the Clarence River there is a splendid sandy bottom over which the trawl could be drawn freely, and flat-head, soles, flounders, and whiting, taken in numbers. At Evans' Head Reef is a good schnapper ground, and from thence to Lennox Head, north of the Richmond, is another excellent trawling ground on which many varieties of fish could be caught. Other bottoms suitable for trawling exist between Lennox Head and Byron Head.

Southern fishing grounds.

South of Sydney, from the Sir John Young Banks to Cape Howe, are other splendid fishing grounds; but generally speaking, these are little known to the average fisherman, who has been content to follow in the footsteps of his predecessors instead of striking out for himself into new channels.

The development of the sea fisheries of the older countries of the world, in addition to furnishing a much-needed and nutritious article of food for their peoples, has produced a class of men inured to hardship and exposure; persevering, brave, and patient in their calling; resolute, prompt to face danger; and accustomed to co-operate with others for the attainment of a given end. The sea fisheries of the United Kingdom have proved invaluable as nurseries for the navy and the mercantile marine. From the fishing ports of the old country have come the hardy and seasoned seamen who have proved invincible on the ocean, and have carried the flag of England to the remotest corners of the earth. What the fisheries have done, in this respect, for the mother country, they are probably

Importance to New South Wales of sea fisheries.

capable of doing for this newer land. Certain it is, that as a result of the development of our deep-sea fisheries, we may expect to produce a race of fishermen second to none in the world; indeed the fisheries of New South Wales should form the training-grounds for the men who in future years may be required to man the trading fleets of Australia.

We strongly urge that this important question of the systematic development of the deep-sea fisheries should be one of the first matters to engage the close attention of the newly-constituted authority proposed in the Bill which we have submitted.

Whaling in Australian Waters.

Whaling once an important factor in trade of Colony.

We have devoted considerable time and attention to the important question of the revival of the whaling industry in these waters. Although the evidence taken with regard to whaling is not voluminous, and the number of witnesses who have made statements upon oath respecting this industry is not great, still we have lost no opportunity of prosecuting our inquiries with respect to a possible revival of this trade, which once formed so important a factor in the commercial life of New South Wales.

Existence of whales in South Pacific.

During our visits to the various fishing centres, information has been gained sufficient in itself to establish the fact that the whales most sought after for commercial purposes do exist, and in very considerable numbers in the South Pacific. In this connection it might be of interest to state that the first notice of whaling at Sydney dates in August, 1790, when a spermaceti whale made its appearance in Port Jackson. The commander of the "Britannia," a transport ship which arrived in Port Jackson in 1791, whose owners were the Messrs. Enderby, of London, reported that on the voyage, after doubling the south-west of Van Diemen's Land, a large sperm whale was sighted off Maria Island; the vessel fell in with more sperm whales when within 15 leagues of the latitude of Port Jackson; and within 3 leagues of the coast of New South Wales sperm whales were seen in numbers, and from the mast-head of the ship shoals of these creatures were visible all around the horizon. Later on the "Britannia," and the "William and Anne," another vessel, sailed out of Sydney harbour on a whaling cruise. The two vessels killed the day after their departure seven sperm whales, but owing to bad weather succeeded only in securing two. Other ships also went out and engaged

in

21

in the whale fishery with greater or less success, according to the peculiar circumstances in which they carried on operations. All the masters engaged in the trade agreed that the coast of New South Wales abounded with whales.

Whaling in early colonial days.

Whaling was carried on with various degrees of success for a number of years down to 1830, which appears to have been an especially prosperous season. By the ship "Elizabeth," which arrived in Sydney on the 18th May in that year from the whale fishery at the Bay of Islands, New Zealand, news came that there were at the Bay ten vessels with full cargoes, besides two others spoken at sea; these were carrying a total quantity of 14,500 barrels, worth, at a rough estimate, about £120,000.

Sydney a prosperous whaling centre.

Sydney in 1830 was a prosperous whaling centre, no less than twenty-two vessels engaged in the industry sailing out of Port Jackson in that year. In a paper published at the time it is recorded that while three years previously New South Wales had but three vessels engaged in the whale fishery, aggregating about 450 tons, at that present time she had 4,000 tons of shipping so employed. Early in 1831, the "Elizabeth," belonging to Robert Campbell & Co., sailed into Sydney harbour, having 361 tuns of sperm oil aboard. This was the take for an eighteen months' cruise, and was the most valuable cargo that had yet been brought into the port, its estimated money value being £21,600. In this year also the whaling trade began to further expand, black whale oil considerably swelling the export.

The following tables will serve to show the commercial value to the Colony of the whale fisheries in the years indicated:—

Quantity of Whale Oil, Whalebone, and Sealskins exported from New South Wales from the Year 1828 to 1840 inclusive, so far as can be ascertained from the incomplete returns obtainable:—

Year.	Sperm Oil.	Black Oil.	Whalebone.	Sealskins.	Vessels.		Value.
	tuns	tuns	tons cwt.		number	tonnage	£
1828	311	28	0 17	8,723	.....	.....	27,011
1829	871 and 50 tuns head matter.	.....	.....	11,362	28	2,739	.....
1830	983	98	9 16	9,720	32	3,687	50,471
1831	1,571	505	28 0	4,424	31	5,391	95,569
1832	2,491	695	43 0	1,415	20	3,497	147,409
1833	3,048½	418	27 0	1,890	27	6,922	146,855
1834	2,759½	976	4 12	890	34	5,534	157,354
1835	2,904	1,159	108 0	667	22	5,162	180,439
1836	1,682	1,149	79 0	386	41	9,257	140,220
1837	2,559	1,565	77 8	107	.....	.....	183,122
1838	1,891	3,005	174 0	3 cases	.....	.....	197,644
1839	1,578	1,229	134 14	7	.....	.....	172,315

Number of Vessels engaged in Whale Fishing and Products obtained, 1840–1875:—

Year.	No. of vessels engaged.	Products, quantity, and value.								Total Value.
		Sperm Oil.		Black Oil.		Whalebone.		Tortoiseshell and Sealskins.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		tuns	£	tuns	£	cwt.	£	sealskins No.	£	£
1840	not given	1,304	102,313	1,589	26,309	2,160	6,403	324	537	135,562
1845	20	1,166	74,475	476	8,072	250	1,754	135	130	84,431
1850	37	958	45,087	382	4,015	.....	.....	.....	.....	49,102
								tortoiseshell lb.	£	
1855	13	376	28,060	50½	2,000	.....	.....	800	720	30,780
1860	12	93¼	6,539	210½	6,357	220	2,535	5,688	2,254	17,685
1865	3	130	7,110	130	7,085	0¾	10	3,893	2,639	16,844
1870	7	.....	.....	141	3,737	1	7	4,244	1,977	5,721
1875	2	13	1,040	80	3,450	40	808	.....	.....	5,298

Imports

22

Imports and Exports of Whale Oil and Whalebone, 1880, 1885, 1891 :—

Year.	Vessels entered and cleared as whaling cruises.						Imports.						Exports.					
	Entered.			Cleared.			Sperm Oil.		Black Oil.		Whalebone.		Sperm Oil.		Black Oil.		Whalebone.	
	No. of Vessels.	Tons.	Crews.	No. of Vessels.	Tons.	Crews.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
							tuns	£	tuns	£	cwt.	£	tuns	£	tuns	£	cwt.	£
1880	...	...	...	...	...	...	1¾	123	142	4,384	...	...	...	...	8¾	286	52	206
1885	...	...	...	...	...	...	2¼	105	148	4,059	...	...	11½	550	26	911	26	315
1891	1*	531	15	1	531	44	5	151	219	5,536	35	1,999	7¾	220	10 1/2	274	33	1,825

* The result of this vessel's whaling cruise was 63 tuns of black oil, worth £1,525, and 17 cwt. whalebone, valued at £800. These figures are included in the total imports for that year.

Imports and Exports of Whale Oil and Whalebone for the Years 1892, 1893, 1894, and from the 1st January to the 20th November, 1895.

Year.	Vessels entered and cleared as whaling cruisers.						Imports.				Exports.			
	Entered.			Cleared.			Whale Oil.		Whalebone.		Whale Oil.		Whalebone.	
	No. of Vessels.	Tons.	Crews.	No. of Vessels.	Tons.	Crews.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
							tuns	£	cwt.	£	tuns	£	cwt.	£
1892	...	...	...	...	...	...	244	5,771	6½	32	5¾	135	11	70
1893	...	...	...	...	...	...	260	5,282	28	166	18	377	5	45
1894	...	...	...	...	...	...	263	5,135	50	300	12⅕	278	60	423
1895 to Nov. 20	*1	230	21	1	230	26	153	2,930	...	...	5	110	...	...

* This vessel's cruise of six months resulted in no oil being obtained.

Whaling a profitable enterprise.

Twofold Bay a whaling station.

Enough has been said to show that, in the early colonial days, whaling was followed with considerable profit. Sydney was the head-quarters and depôt of the whaling trade in New South Wales, the result being that this industry proved of great value to the capital and to the Colony. Twofold Bay also was an important whaling station. Consequent upon the discovery of gold in Australia, interest in the whaling industry rapidly declined, officers and men preferring the excitement and chances of life at the various gold-fields to following their ordinary calling at sea.

Efforts to revive interest in whale fisheries.

We are pleased to notice that whaling has of late received a little more attention at the hands of men engaged in commercial pursuits. Efforts were, and we believe are still being made to direct attention to the undoubted value of the whale fisheries in southern waters, and there can be little doubt that if a vigorous and determined attempt is made to revive this once flourishing industry, substantial benefit will accrue therefrom to all concerned.

Existence of right and sperm whales. Capt. J. B. Carpenter.

The evidence taken upon the subject is both interesting and important. It establishes the fact that the right whale and the sperm whale exist in numbers at no great distance from the Australian coast. Captain J. B. Carpenter, late master of the whaling vessel "Costa Rica Packet," states that within a radius of 1,200 miles from Sydney lie about the best whaling grounds in the world. These grounds are frequented by the right whale, the sperm whale, and the humpback, and the seasons following

23

following on as they do, one after the other, makes it possible for a ship sailing from Sydney—which he regards as being one of the best ports in the world and the nearest to the whaling grounds in the Southern Ocean—to utilise the whole of the year in whaling. Another thing in favour of Sydney is that it has such a fine climate—so much sunlight and fine weather—that the oil from the whales could easily be separated and clarified, and placed on the market ready for use at a minimum cost. A few days sunlight will take the colour out of the very darkest whale oil and make it clear.

Sydney nearest port to whaling grounds in Southern Ocean.

According to Captain Carpenter the range of the right whale is from the west coast of Patagonia east to 170 degrees west latitude. They go north as far as the Brazil Banks in the Atlantic Ocean, and 34 degrees south latitude in the Pacific. Their range extends from that to about the 50th parallel of south latitude. Outside of those limits it is scarcely worth while to look for them. They come north in about October. "We generally reckon," he says, "that about the 13th of October they will be upon the ground, and they shift about from one ground to the other up to about the middle of February. Then they go south and generally frequent the bays and the coast and the different islands for breeding. The right whaling grounds can always be recognised by the colour of the water. The colour of the water is no doubt caused by under-currents coming from the south, and in these particular places this current comes to the surface and brings the food of the whale to the surface. A ship sailing over one of those places very early in the season will see the water slightly discoloured, having a reddish appearance. That is owing to the brit as it is called—small animalculæ which the whales eat—being low down in the water. It is no use looking for whales there when the feed is low down. A week or so after that the feed will come within a foot or thereabouts of the surface, and any whaler would stop where he was until the whales came to the ground, which would be within a day or two. When the brit is about a foot from the surface the water is blood-red, patches of it several acres in extent. When the season is over that food, so much of it as is left, comes to the surface and dies; it turns a sort of straw colour. Then it is no use to look for whales any longer on that ground."

Range of right whales.

Right whaling grounds.

Brit—food of whales.

Right whales are frequently seen on the New South Wales coast, and several have latterly been taken at Twofold Bay.

Right whales on New South Wales coast.

Regarding the sperm whale, their range in the Southern Ocean is right from the Equator to 60 degrees south, and almost right round the world, with the exception that the sperm whale has never been known to go round the Cape of Good Hope; they always make their passage round Cape Horn. They are distributed pretty well through the tropics in the Pacific Ocean, right from the coast of Peru over to the coast of New South Wales. There are certain grounds called the offshore and inshore grounds, where the whales congregate at certain times, and about the different islands. The sperm whaling grounds are generally close to the islands. At full, the change, and the quarters of the moon, a day or two before or after those times, the whales are always close inshore; but between those times whalers have to look for them off the shore, say about 20 miles off, and always in deep water. The sperm whale never goes on soundings under 100 fathoms, and it is very seldom they come on to that. The sperm whales on or near the land are a smaller species than those further south. They are gregarious, and travel in very large herds, and breed throughout the year. Down in the tropics, or just above the Tropic of Capricorn, the whales run large; the bull whales sometimes average from 70 to 140 barrels of oil, the cow whales very seldom exceed 40 barrels. The sperm whale season lasts throughout the year; they are to be found in any season but in different localities.

Range of sperm whale.

Sperm whaling grounds.

whaling season.

The other whale of commercial value is the humpback. They come from the south in the early part of May and travel up close inshore along the coast of New South Wales and New Zealand. They go up as far north as about 15 degrees of south latitude, and collect all around the reefs and shores. They go up there to calve, and remain there until about October. When the calves are old enough to travel with their mothers they start south again, generally taking the same track as they followed coming up, and no doubt they go down among the ice in the Southern Ocean.

The humpback whale.

Captain Carpenter is of opinion that the whaling industry might be very largely developed, and he asserts that such development would be of great commercial value to New South Wales. When he first went whaling he sailed in company with over

Whaling might be developed.

24

over 500 ships in the Southern Ocean, right whaling in the season and catching sperm whales afterwards. In those days bone was worth from 17 to 20 cents. per pound, and they always chased the whale that was worth the most—the sperm whale. About four years ago, he brought bone into Sydney from the Southern Ocean, and it fetched 24s. 6d. per pound. The right whale of the Southern Ocean generally yields from about 800 lb. to 1,200 lb. of whalebone—that is, baleen.

Value of whalebone.

Antarctic exploring expedition.

We have also had the advantage of obtaining the evidence of two gentlemen who occupied the positions of manager and scientist, respectively, of the Antarctic Exploring Expedition, despatched in 1894 to the Southern Ocean by the late Commander Sven Foyn, an old Norwegian whaling master.

Mr. H. J. Bull.

Mr. H. J. Bull, the manager of the expedition, states that on making the 64th degree of south latitude many large whales were sighted, and from 64 to 74 degrees large whales were seen nearly every day. The whales referred to by him are termed the finback, or sulphur-bottom whale.

Mr. C. E. Borchgrevink.

Mr. C. E. Borchgrevink, scientist on the "Antarctic," asserts that great numbers of blue whales or finbacks were daily seen by the expedition. The blue whale is about 80 feet long and weighs about 90 tons. It sinks directly it is shot; the right whale and the sperm whale float on the surface after being shot. All the parts of the blue whale are of commercial value, but special appliances, similar to those now in use in the blue whale fisheries in Norway, are needed for their capture.

Blue whales.

Sperm whales.

During the voyage of the "Antarctic" to South Victoria Land, sperm whales were seen in great numbers, some of them being sighted off the southern part of the island of Tasmania.

Whales numerous on coast of New South Wales.

This last winter whales were unusually numerous off the coast of New South Wales, the masters of vessels and lighthouse-keepers and fishermen at different points continually reporting their presence in numbers, sometimes close in. One witness stated that two years ago he saw the sea off the coast of New South Wales thick with right whales; whales could be seen as far as the eye could reach. That was off Cape St. George. Sperm whales have also been seen in the Shoalhaven Bight and at other places.

Although we have not taken the evidence of many practical whale-men, owing to the fact that such evidence was difficult to obtain—whaling as a colonial industry having almost completely dwindled away—the information before us is sufficient to warrant the assertion that all that seems necessary to successfully conduct the whaling industry in our waters is enterprise, the proper equipment of a certain number of suitable vessels, and the employment of men skilled in whaling operations. Were this done, we feel confident that a revival of the industry would soon be effected, and Sydney, once the home of the trade in these latitudes, would take her rightful place as the great whaling depôt in Australasian waters. As a result of a revival of the whaling industry, other industries would naturally be started, considerable sums of money would be disbursed, and employment found for a large number of our population.

Steps necessary to revive whaling industry.

Government and the whaling industry.

In view of the importance of whaling to the Colony, we venture to express the hope that the Government will take some steps to assist in the revival of a trade which would undoubtedly prove of immense value to New South Wales.

The Herring Fishery.

Herring in our waters.

In our Advance Report we made a brief reference to the presence of the herring in New South Wales' waters, and reiterated the fact that no less an eminent authority than the late Sir William Macleay, F.L.S., affirmed that there is no sea on the globe favoured with a more rich or varied supply of fishes of the herring tribe than that which washes our shores. He claimed that the two principal species, the maray, *clupea sagax*, and the southern herring, *clupea sundiaca*, were, for excellence and delicacy of flavour, unsurpassable, and asserted that if preserved in oil, after the manner of sardines, would be finer eating even than those much esteemed delicacies. Sir William, whose experience of the fisheries, both from theoretical, practical,

25

practical, and economic standpoints, was very considerable, laid it down as a fact that these fish visit our coast in the winter months, passing from south to north in enormous shoals. Enormous shoals.

Of the presence of the maray in numbers close to these shores we have indisputable evidence. At many of the coastal fisheries visited by us we were enabled to establish the fact, on the authority of intelligent and reliable witnesses, that the herring does frequent our waters at certain seasons of the year. During September and October pilchards made their appearance in countless numbers, both along the coast and in many of the estuaries, and, from inquiries instituted at the time, we are enabled to say that, had the Colony been in possession of establishments for treating and preserving these fish, millions of them could have been netted and converted into a marketable commodity. Mr. D. W. Benson, Inspector of Fisheries, stationed at Lake Illawarra, has informed us that vast shoals of pilchards were for several weeks seen off the entrance to that lake and off Shellharbour. At Manly these fish swarmed in countless numbers, and at Middle Harbour and other parts of Port Jackson, nearly as far up as Chowder Bay, the water was alive with the immense shoals. Large schools of the herring tribe were also observed at other fishing centres. The amazing abundance of these fish makes it indeed regrettable that from the mere lack of the necessary appliances for canning, salting, and otherwise treating them, tons upon tons were permitted to leave our shores. Shoals of pilchards on the coast.

The concluding paragraph in our advance report respecting the establishment of the herring fishery reads as follows:—"We urge attention to the claims of our herring fisheries with all possible earnestness." We again desire to press the claims of the herring fishery with all the force and earnestness of which we are capable. Immense possibilities lie before the development of the industry. The annual value of these fisheries to Great Britain and to other countries represents an immense sum. As a consequence of the establishment and development of the industry remunerative employment is afforded to a vast number of people, ranging from those who engage in building fishing-smacks to those employed in the final distribution of the several catches. We again repeat that, owing to the costly nature of the undertaking, it is one which the Government must initiate, for it could not be undertaken with much hope of immediate success. It is to be hoped that some practical steps will be taken in the way of initiating and carrying on what we believe would eventually prove to be a very valuable industry. The doubt that existed in some quarters respecting the permanence of the trade, if established, has been dispelled, it being proved beyond all doubt that the *clupea* is an annual visitant to these waters. There is every reason to believe that a large and ever expanding industry could be instituted in the capture and treatment of the shoals of herrings that make their appearance at stated intervals, and it is imperative that something should be done to turn to account this valuable source of food supply which now, owing to the lack of suitable appliances and the requisite knowledge of skilled methods of treatment, is allowed to go to waste. Immense possibilities if industry developed. Government must initiate. *Clupea* an annual visitant to our waters.

We desire also to reiterate our assertion, "that apart from the value of the herring as a food fish, it would be difficult to estimate its worth as oil-producing material." Some countries extract large quantities of oil from herrings, and the annual value of the oil so obtained is estimated at many thousands of pounds. For years herrings have been largely converted into oil in Russia—about 100,000,000 of these fish are said to be sacrificed annually for oil-making. During the time that the influx of fish continues, 100,000 to 250,000 pouds (of 36 lb.) of herring oil are made on the Volga, according as the fish are abundant, and the fish more or less fat. The herrings are placed in open casks, containing about 1,000, and boiling water poured over the mass. After the lapse of several days the fish enter into putrid fermentation, when, under the action of the air, the heat, and the hot water, the oil separates. The whole is transformed into a half-liquid reddish paste, of a disagreeable odour. When once this putrid fermentation has commenced, a day suffices: the oil is then collected from the surface, and the mass thrown away. In Japan, also, oil is extracted from the herrings, which are caught in immense numbers. The fisheries in Japan afford employment to thousands of the inhabitants, and are a source of great profit, the prices varying from 48s. to 56s. the picul (130 lb.). Value of the herring as oil-producing material.

The

26

The Inland Fisheries of New South Wales.

The Snowy River and Acclimatisation of the Salmonidæ.

The Snowy River.

Referring to the remarks in our Advance Report respecting the Snowy River system, we have since visited the Monaro district and made ourselves personally acquainted with the capabilities of some parts of it for fish-culture, and have no hesitation in stating that our inspection has amply confirmed our previously-conceived favourable opinion concerning it.

Snowy River suited for fish propagation.

The Snowy River is undoubtedly a stream perfectly suited for fish propagation —indeed so suitable does it seem to us that we cannot press too strongly the desirableness of utilising its capabilities in the best direction and to the utmost extent.

At the present time, strange to say, the river is practically devoid of fish-life, so that any attempt at its utilisation for fish-culture would be commenced under unusually favourable conditions. With its perennially snow-fed streams, its frequently recurring eddies, rapids, falls, and currents, to say nothing of its value from the anglers' and the tourists' points of view, it seems so peculiarly suited to the nature and habits of the *Salmonidæ* that, in our opinion, it should be exclusively set apart for the propagation of species of that family, and be stocked with them in quite prodigious numbers.

River suited to *Salmonidæ*.

Special measures.

Now, it will be obvious that in a territory so remote from the metropolis as Monaro, and yet so specially important and valuable from a piscicultural standpoint, special measures will be necessary to ensure the complete success of any piscicultural experiments that may be attempted.

Vastness of Monaro water system.

As will be seen from the accompanying sketch-map, its rivers, creeks, lakes, and tributaries present a water system more vast and far reaching than has perhaps been conceived by many persons, and the very vastness of that system seems in itself quite a sufficient warrant for our contention, and for establishing fisheries there on quite a wide and comprehensive basis.

Any attempt to stock a river flowing for some 240 miles through rugged precipitous and mountainous country must, to be successful, be undertaken on a scale commensurate with the object to be attained.

The present necessary journey of trout fry from the metropolis by train, occupying some thirteen hours, seems but a sorry preparation for the further transit by coach of such a delicate commodity over the 30, 40, or 50 miles of rough country which has to be negotiated, and at not the most favourable season of the year, before even any principal points of settlement along the river can be reached, to say nothing of parts still more remote, and tributaries yet further back, which under such circumstances could never be reached at all.

It needs but little reflection to apprehend that a territory so distant from the metropolis as Monaro, and yet so specially important and valuable for fishery purposes, needs to have within itself all the accessories necessary for fish propagation and development, and to be not at all dependent for stocking upon outside sources.

Hatchery should be established at Dalgety.

We have therefore no hesitation in recommending that a perfectly-equipped hatchery, with ponds attached, should be at once established in the district; and we consider that the Government township at Dalgety (Buckley's Crossing-place), where there is unalienated land which could be availed of for the purpose, should be the spot at which the hatchery should be located.

Dalgety is a settlement on the Snowy River, and is the most readily-accessible point in one direction from Cooma. Its stream there is wide and of considerable volume; adjacent to it and at several intervals both up and down the stream, within the limits of our inspection, occur rapids, falls, and eddies, where the *Salmonidæ* would find locations suitable to their habits, and where, unimpeded by adverse conditions, they would of necessity grow and flourish. The erection of a hatchery need not be expensive; all that would be required would be an enclosure of, say, 5 acres of land, the erection of a caretaker's residence, and the construction of a hatchery and ponds. The cost of these ought not to exceed £500.

Cost of hatchery.

Migratory *Salmonidæ*.

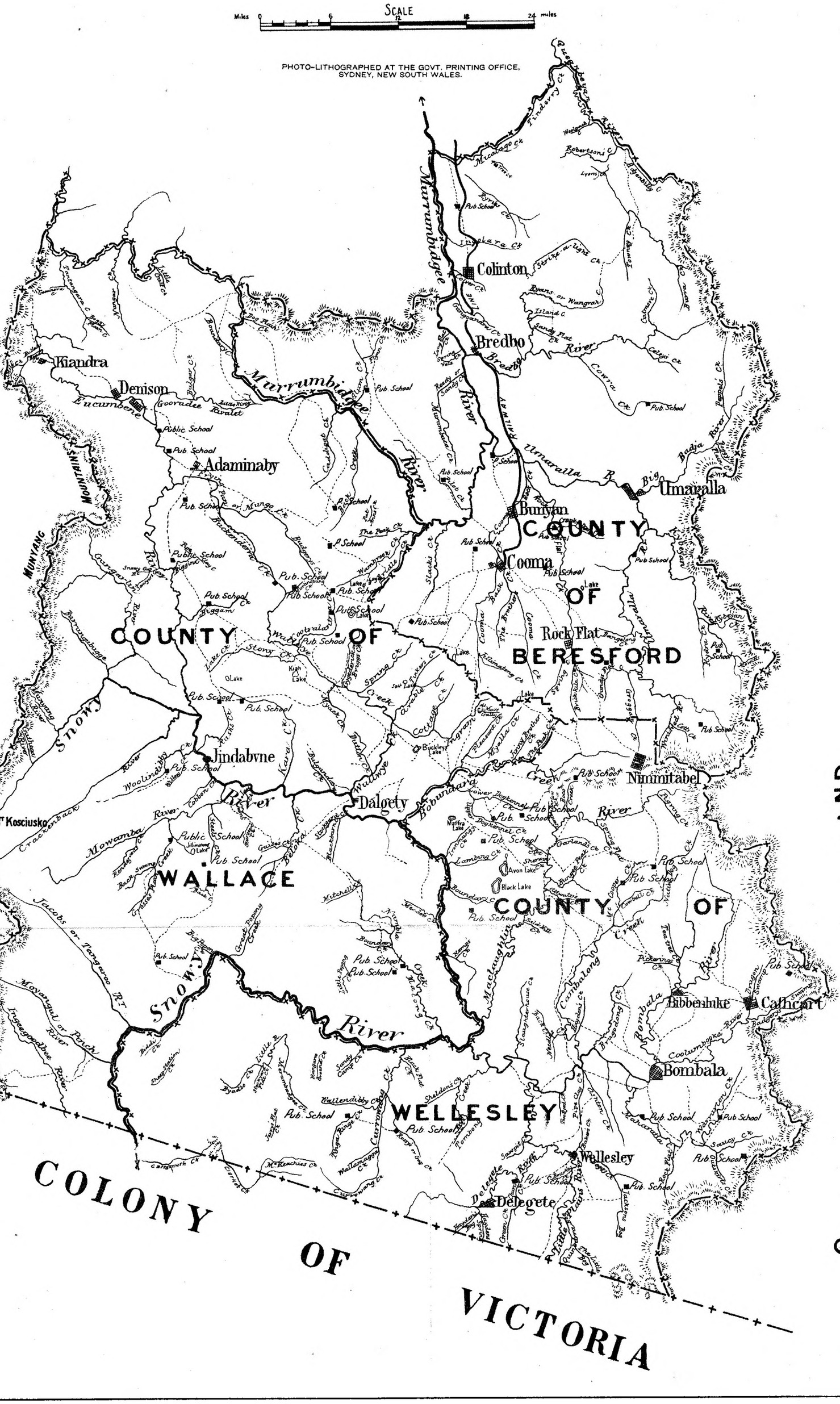
Moreover, the Snowy River is about the only water in the Colony in which it would be possible to fairly test the success of an experiment to introduce the migratory *Salmonidæ*. A possible impediment to the experiment might

be

MAP

showing the River system of the Monaro District embracing the

COUNTIES OF BERESFORD, WALLACE & WELLESLEY



(Sig 326-)

27

be the warmth our waters attain while passing through the long stretch of low lands intervening between the mountain coast-ranges and the coast itself. But except for an obstruction in the shape of some impassable falls at Popong, any migratory species of salmon reared in the Snowy could, if these falls were cut away—and we are informed that the work could be done at quite an inconsiderable expenditure—find their way through snow-fed waters to the sea, at a point in the lowest available latitude. It might be that the ocean-water even in that latitude would prove too warm for the salmon; but in the interests of pisciculture we think the experiment worth a trial, because if it succeeded it would mean the introduction of this king of fresh-water fish to the inhabitants of New South Wales.

The quinnat.

At any rate the quinnat—the American salmon—is a species which takes somewhat kindly to a comparatively warm ocean-water, and is the particular fish so largely imported here in the tinned state as Californian salmon.

The successful acclimatisation of this species alone in Australian waters would open out such enormous possibilities and advantages to the fisheries of the Colony that it would seem almost calamitous to refrain from making the attempt.

The landlocked salmon.

Then, again, there is the sebago or landlocked salmon, a variation of the true salmo-salar, its peculiarity being that it has lost its migratory instinct, and propagates and thrives in waters remote and separated from the sea. Its growth is said to be more rapid than the salar itself, and the flesh is described as rich and of a more delicate flavour. This fish is much sought after in the United States, taking, perhaps, in public favour the lead of all fresh-water fish species. According to the waters in which it is placed it reaches a weight from 5 to 12 pounds, ranging in exceptional cases as high as 18 pounds and 20 pounds. It has a preference for deep streams, and is very highly prized for food.

The rainbow trout.

Again, there is the rainbow trout—*irideus*—a hardy game fish, which is said to thrive in streams having a temperature higher than is suitable for the common trout. It hatches out in larger percentage, lives well in captivity, and grows rapidly.

This latter, of course, would be a fish suitable to the larger number of the rivers of the Colony, and in connection with the Snowy River is mentioned only incidentally; but supposing the attempt to introduce the quinnat should fail, we have still the landlocked salmon to fall back upon, which, from its habit, should prove a complete success. We believe that this species was sometime since introduced into the Scottish Lakes and Midland Waters, where its advent was hailed with immense satisfaction by Scottish lairds and other water proprietors who hitherto had been accustomed to suffer an immense percentage of loss from poaching during the necessary migration of the salmon proper to and from the sea.

We think that the utilisation of the Snowy River in the directions we have indicated should engage the immediate attention of the Government, so that the approaching season for hatching may not be lost.

The Murray and Murrumbidgee Rivers.

We have not yet found opportunity to visit the Murray River Fisheries, so that, beyond the remarks embodied in our Advance Report, we can report upon them only so far as the evidence we have been able to collect will warrant us.

Loss of effective supervision of Murray fisheries deplored.

We deplore the policy which for the past two or three years has involved the loss of effective supervision of these fisheries, and we urge very strongly the reinstatement of Messrs. Manton and Wilshire as Inspectors, at a salary. It would appear that these gentlemen have for some two years been doing duty in an honorary capacity; but it is scarcely within reason to expect that, at great personal inconvenience, they should continue the prosecution of unusually arduous official work, sometimes involving stripping and going into creeks to secure illegal nets, and taking them long distances to Police Courts for confiscation, without any remuneration whatever. One result of this policy must be that the interest they possess will eventually flag, and their supervision grow lax, thus really offering inducement to fishermen to infringe the law when they find opportunity. Indeed, that such has already been the case may be inferred by the fact that some of these fishermen seem now practically able to employ two steam-boats to convey fish to the several

Victorian

28

Victorian rail termini, which could scarcely be the case if legitimate fishing only were practised. If a check be not at once placed on this mode of business, it is only a matter of time, and a short time too, when the river will become entirely depleted of its produce.

Possible depletion of Murray.

Murray fish supplies the Victorian market.

The unfortunate side of the matter is that the fish of this river is availed of almost entirely for the benefit of Victoria—none of these fish reach the metropolis of New South Wales. Indeed, even the fish brought into consumption in Riverina are from the Murrumbidgee—not the Murray. This may in part be attributed to the limited railway communication on the New South Wales side, which is complete to the metropolis only from one point. In view of the use this river may be to New South Wales when the further contemplated railway connections have been made, it seems only judicious in the meantime to protect it from the spoilation to which it is now subject.

Destructive nets used.

We append emphatic evidence respecting the destructive character of many of the fishing-nets used in the Murray. These nets are very minutely described by Mr. Chanter, M.P., and from the description he gives of them it is really surprising that their almost unrestricted use in the past has not already depleted the river of fish. It is asserted that even cormorants, with their proverbially insatiable appetites, do not destroy anything like the number of fish which is accomplished by the ingeniously-constructed nets now in use.

Legal net.

We recommend that the net legal for use in the Murray should be the gill net proper—that is to say, a plain wall net without any bag or attachments or other auxiliary nets; it should be at least four inches in the mesh, so as to allow of the passage through it of any fish under marketable size.

Closures against net-fishing.

We consider also that the system at present adopted for the protection of young fish in inland waters is not a good one; the lakes and creeks being the breeding-grounds proper, should be closed against net-fishing, rather than stretches of river in close proximity to water-side towns, where the gravid fish and the smaller fry are seldom located.

Murray fisheries to be regulated by Governments of Victoria and New South Wales.

. From the evidence before us we are of opinion that it will be impossible to regulate the Murray fisheries with any hope of success, unless the Victorian Government will join in the attempt.

Special regulations.

In our Bill to regulate the fisheries we provide power to make special regulations to govern those in the Murray, and we urge that this should be undertaken as soon as ever the Bill becomes law, on a basis to be agreed upon at a conference between the fisheries authorities of the two Colonies.

Importance of Murrumbidgee River fishery.

The Murrumbidgee River on the other hand, one of the most important of our inland streams, differs from the Murray inasmuch as it is wholly within New South Wales territory, and could be largely utilised for purposes of supplying the metropolis and the south-western towns of the Colony with fish. Taking its rise in mountains not far from the Snowy River sources, it is fed along its course by numerous affluents, all of which add to it their quota of fish life. The evidence we have obtained discloses the information that these affluents, as well as lagoons and billabongs, which occur at intervals, are the natural breeding places of the fish commonly known as the Murray cod. This fish possesses an exceptional value peculiarly its own, and is in immense request by all fish connoisseurs; this indeed is evident from the avidity with which the Murray River alone is being netted for the Victorian market, in which this fish is always to be found in far greater abundance than in our own metropolis.

Murrumbidgee should be under effective control.

Now the Murrumbidgee, if placed under effective control, and its affluents and lagoons sufficiently protected by a judicious system of closures for the conservation of the young fish, which, it would appear from the evidence, has not so far been the case, we might with confidence expect this river to be a large factor in the production of a fresh water fish, which for excellence and general economic usefulness may be regarded as of co-ordinate value with the schnapper of marine waters.

Other principal rivers of N.S.W.

The other principal rivers of the Colony we have not found opportunity to inspect. We are, however, of opinion that they all need efficient oversight, provisions for protecting the fry of the fish they contain, and to be brought under some general regulations which shall ensure fishing operations being carried on in them under conditions which shall obviate to the greatest possible extent the wholesale destruction of fish life which at present obtains.

29

Lake George.

Lake George, distant about 5 miles from Bungendore Railway Station, may be described as an inland sea. It is the largest sheet of fresh water in New South Wales. Situated in the midst of a mountainous country, it has a well-defined catchment area but no visible outlet, although by some it is thought that a certain quantity of its waters disappears yearly through subterranean channels which are said to exist eastwards to the Shoalhaven Gullies. The lake was discovered early in the present century, during Governor Macquarie's term of office. At the present time it is about 18 miles in extent from north to south, its greatest breadth being something like 6¼ miles. The greatest depth is about 13 feet, the average depth being 7 feet—the difference is explained by the fact that its margins for many miles are extremely shallow. The lake has four tributary streams discharging their waters into its basin. Turalla, and Deep Creeks flow from the southern watershed; from the eastern watershed comes Taylor's Creek; while Collector Creek enters from the northern watershed. It was owing to the action of Mr. (afterwards Sir) Terence Aubrey Murray, that fish were first introduced into the lake. This gentleman at one time owned the estate of Windradene, through which property ran Collector Creek. The channel terminated, like those of other creeks, in an extensive bed of silt on the margin of the lake. Into Collector Creek Mr. Murray had introduced a consignment of cod, bream, or perch, which he caught in the Queanbeyan River and forwarded to their destination in hogsheads on a bullock dray. The perch, or bream, were never afterwards seen, but the cod thrived and increased so rapidly that in the space of a few years they became abundant in Collector Creek. In the year 1864, a very wet season, the waters began once more to be retained in the basin of Lake George which had previously drained dry. They gradually spread until in 1874, or thereabouts, another very wet period, the area of the lake extended upwards of 20 miles in length, by 12 or 14 miles in width. The silt beds at the mouth of the various contributary creeks being permanently covered, the fish in those affluents had free ingress and egress from them to the brackish waters of the lake. For a long time, however, the existence of the Murray cod in the waters of Lake George remained unknown. The first captures of these fish appear to have been made by settlers in the neighbourhood of Deep Creek, who found that stream teeming with large cod ranging up to 40 lb. in weight. Later on the people of Bungendore discovered shoals of cod in the Turalla Creek, which flows through that town. It would appear that those fish, or the stock from which they were bred, had been carried into the lake in the rainy season of 1864, their natural liking for fresh water leading them to forsake the brackish waters of the lake for the sweeter waters of the creeks. Sometime afterwards the brackishness of the lake water diminished, and it was then found that fish were present in larger quantities in the lake itself. This is the condition of the fisheries at the present time.

An inland sea.

Extent of lake.

Introduction of fish.

Murray cod in lake.

Our inspection of Lake George has led us to form a very high opinion of its capabilities as a fishery. It contains large quantities of Murray cod, also other fish of less material and economic value. As a fishery this immense sheet of water is practically unworked, although in former years great quantities of cod—totalling probably many hundreds of tons—were taken out of it, and distributed in the important centres of Goulburn, Queanbeyan, and Bungendore.

Capabilities as a fishery.

It seems improbable that much good will accrue to the community as a whole from the fishery at Lake George until it is placed under efficient supervision and is governed by proper regulations. If this were done its development would follow and a most important source of food supply for the inhabitants of the adjacent towns and the metropolis would be created, there being no doubt that by the employment of suitable trawling apparatus a constant and regular supply could be forwarded to the Sydney market.

Efficient supervision necessary.

Under favourable conditions practical fishermen, provided with proper boats and appliances, would undoubtedly reap a large reward for their labours. Indeed the use of a trawl would seem indispensable, as the fish, being naturally well fed, are shy of the bait even in the summer, while in the winter months they lie dormant in the soft mud at the bottom of the lake. In addition to the undoubted value of the Murray cod as an article of food, the oil obtained from this fish is said to be equally as good as imported cod liver oil. It would also be of value for lubricating machinery. Some years ago, owing to certain deleterious matter draining into the lake, many fish died. This created a little trade in fish oil, several barrels being sent away, the consignments realising 2s. 6d. per gallon.

Trawling at Lake George.

Complaints

Closure of creeks, &c.

Complaints have been made that much destruction of cod fry has been caused through the use of small nets in the creeks and shallow places along the shore. This is a matter calling for attention, and we urge the closure of the creeks and certain portions of the lake against fishing operations at certain times of the year. Also,

Fish-eating birds.

fish-eating birds, principally cormorants, shag, and pelicans, destroy such an immense quantity of fry, that some inducement for their destruction seems to be demanded.

No ready means of access to shores of lake.

Grievous complaints have been made to us by the inhabitants of Bungendore and other places, that the public have not access to the shores of the lake. Apart from its value as a fishery we regard Lake George as a future great national pleasure resort, and would strongly urge upon the Government the advisableness of resuming an area sufficient to form a road of access to the water frontage of the lake, and a good drive right round the foreshores. It seems imperative that some such thing as this should be done in order to conserve the public interest, as at the present time the people cannot, except on sufferance, approach most parts of Lake George. As the lake will in all probability be largely resorted to in the not distant future, it is of the utmost importance that this matter should have attention.

Oysters.

Hunter River deposits.

We have made a visit of inspection to some of the oyster-beds and foreshore deposits in the Hunter River. An examination of numerous specimens taken in the dredge from deep-water beds leads us to hope that the worm disease which for so many years has proved so fatal to the bivalve, is being gradually overcome, and that the time is not far distant when it will have been completely eradicated.

The lessee, Mr. F. J. Gibbins, has been most persistent in his efforts to combat this pest—his plan of action has been to keep the beds constantly worked and to remove all the shell from affected areas. This work has been a long and expensive one, but the wonderfully prolific nature of the Hunter River in oyster development, and the exceptional excellence of the oyster itself seemed to justify the efforts so untiringly made, and the result is now becoming apparent.

Growth of spat in Back Channel and in Fullerton Cove.

In the Back Channel the growth of spat appeared to be very free and quick, as was evidenced by the unusual development of the spawn which had set during the last winter.

In Fullerton Cove the development seemed more pronounced still; indeed, we were informed by the manager that such a rapidity of growth had not occurred for years.

Natural foreshore deposit at Smith's Island.

As the mode of occurrence of the oyster may be new and, perhaps, interesting to some persons, we append an illustration showing a section of a natural foreshore deposit at the south-eastern end of Smith's Island, in Fullerton Cove, obtained under some difficulties, at a point of time as near as was possible to the lowest neap-tides. The foreshore, as will be observed, is well covered with oysters of all sizes of growth, partially buried in the mud, but spread as evenly as if they had been sown broadcast. In the distance are to be seen boats engaged in the operation of dredging, and men employed in raking up oysters and shovelling them into baskets and other receptacles for deposit on some of the adjacent beds under deep water. This flat at lowest neap-tide is uncovered quite up to the houses on the higher land, and for a considerable distance and width on the south-western side as well. The total area of the deposit

Quantity of oysters on island.

may be estimated at about 5 acres; the quantity of oysters, large and small, upon it at the present time would fill about 1,000 3-bushel bags. If these oysters were to be left to grow to maturity they would in about nine months time fill (say) quite 3,000 of these bags. But the lessee has been, and indeed is still engaged in removing them to some deep water beds in the vicinity where he expects them to mature more quickly, and to acquire a flavour even better than they now possess.

Quality of oysters.

It may not be known to every one that the quality of oysters grown in beds under deep water is immeasurably superior to that of oysters grown on shores where they are wholly or partially uncovered at every tide.

There are eight men employed in gathering and removing these oysters. They can work only at certain states of the tide, and it will take from twenty-four to thirty tides to effect complete removal.

This is only one of numerous foreshores existing in most, if not all, of our rivers, where oysters would, under protection, grow and thrive naturally, and there

Oyster farms at Port Macquarie and Clyde River.

are frequently recurring spots where they can be made to grow artificially as well, but this branch of the business has not, except in very few instances, been taken up with

Section of a Foreshore Oyster Deposit at Smith's Island, Hunter River.

31

with enthusiasm. We are informed that, amongst others, there are artificially cultivated oyster farms at Port Macquarie, and at Clyde River, but opportunity has not occurred to visit these distant waters, which we are given to understand are well worth inspection.

Market Accomodation.

As evidencing the value of the recommendations and suggestions made in our Advance Report, we cannot feel other than gratified in knowing that many of our suggestions respecting market accommodation have been adopted by the civic authorities. For instance several important improvements at the Woolloomooloo Fish Market which we advocated are to be immediately carried out. Briefly stated the reforms referred to include the erection of raised tables, a reduction in market dues, and the granting of authority for fishermen to vend their own fish.

Adoption by civic authorities of suggestions made by Royal Commission.

The adoption of the raised tables alone will prove a vast improvement upon the system of displaying the fish which now obtains, unnecessary handling of this perishable product will be avoided, and it will at once assume a much cleaner condition than has hitherto been the case.

Vast improvement.

Nevertheless we feel it incumbent upon us to reiterate our opinion, already expressed, that the Fish Market to be of use generally to the community should occupy a more central site. We think there are sites better suited than the one at Woolloomooloo. The Darling Harbour railway terminus, to which access is available by water, rail, and road, would form a far more convenient site for the central fish market; and were auxiliary markets established in each of the most important suburbs, and the whole system properly supervised and placed under the control of the Government, something more approaching perfection in our mode of fish distribution would result. Were such a system as we have indicated brought into operation the fishermen and the consumer would be equally benefited, and besides, our inland towns would share in the advantages to be gained by the institution of a more ready means for despatching consignments of fish to the interior.

Fish Market should occupy a more central site, say Darling Harbour.

Fish supply to inland towns.

Fisheries Legislation.

We think it a matter for extreme regret that it has not been found practicable to introduce to Parliament during the session now terminating the Bill to regulate the Fisheries and Oyster Fisheries of the Colony, which we had the honour to submit so far back as the 14th June last.

Fisheries and Oyster Fisheries Regulation Bill.

We feel confident that the fisheries, if properly controlled and developed—as we venture to think they would be under a measure like the one to which we refer—will prove an important and valuable addition to the staple industries of New South Wales.

We have the gratification of knowing that our Bill has been most favourably received and commented upon in various quarters, and in concluding the task entrusted to us under our Commission, we desire to record our earnest hope that in the public interest and in the interests of the particular classes the Bill has been designed to relieve and benefit, it may receive the attention of the Legislature and be passed into law at the very earliest possible opportunity during the next session of Parliament.

We have the honor to be,

Your Excellency's obedient Servants,

FRANK FARNELL,
PRESIDENT.

R. H. D. WHITE,
Commissioner.

LINDSAY G. THOMPSON,
Commissioner.

Sydney, 13th December, 1895.

ROYAL COMMISSION ON FISHERIES.

MINUTES OF EVIDENCE.

SUPPLEMENTARY REPORT.

DEEP-SEA FISHERIES.

WHALING.

TUESDAY, 26 *MARCH*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 10·30 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Captain John B. Carpenter, late master of the whaling vessel "Costa Rica Packet," sworn and examined:—

1. *President.*] You were captain of the "Costa Rica Packet"? Yes. Capt. J. B. Carpenter.
2. Have you had considerable experience in connection with the deep-sea fisheries in southern and other waters? I have had considerable experience of whaling, but not so much with the fisheries generally. 26 Mar., 1895.
3. What is your opinion regarding the future prospects of the whaling industry in New South Wales? Well, I have been these last four years trying to start a company to go in for whaling, because I have such confidence in what whaling might be made—I mean, of what value it might be to New South Wales, Sydney being one of the best ports in the world, and the nearest to the whaling grounds in the southern ocean. Within a radius of about 1,200 miles from here lie about the best whaling grounds in the world. There are any amount of whales there—the right whale, the humpback, and the sperm whale; there are any amount of them, and the seasons following on as they do, one after the other, makes it so that a ship sailing from Sydney could utilise the whole of the year in whaling.
4. Is that because the whales seek a temperature that is congenial to them, or is it on account of their having certain feeding grounds to which they make periodical visits? I think it is that they have certain feeding grounds which they visit regularly. We see them there at times, and they go away again and we do not know where they go; but there are times when you can count upon their arrival at that place almost as certainly as you could depend upon the arrival of a mail steamer at a given port. I know something about whaling, being a practical whaler; my experience and study of whaling extend over a period of about thirty-five years.
5. Will you tell the Commission something about the different species of whales? The range of the right whale is from the west coast of Patagonia east to 170 degrees west latitude. They go north as far as the Brazil Banks in the Atlantic Ocean, and 34 degrees south latitude in the Pacific. Their range extends from that to about the 50th parallel of south latitude. Outside of those limits it is scarcely worth while to look for them. They come north in about October. We generally reckon that about the 13th of October they will be upon the ground, and they shift about from one ground to the other up to about the middle of February. Then they go south and generally frequent the bays, and the coast, and the different islands for breeding. The right whaling grounds can always be recognised by the colour of the water. The colour of the water is no doubt caused by under-currents coming from the south, and in these particular places this current comes to the surface and brings the food of the whale to the surface. A ship sailing over one of those places, very early in the season, will see the water slightly discoloured, having a reddish appearance. That is owing to the brit as it is called—small animalculæ which the whales eat—being low down in the water. It is no use looking for whales there when the feed is low down. A week or so after that the feed will come within a foot or so of the surface, and any whaler would stop where he was until the whales came to the ground, which would be within a day or two. When the brit is about a foot from the surface the water is blood-red, patches of it several acres in extent. When the season is over that food, so much of it as is left, comes to the surface and dies; it turns a sort of straw colour. Then it is no use to look for whales any longer on that ground.
6. In regard to the animalculæ which discolour the water, what are they? An animal production. I have often looked at them through the microscope. They are little things with a red head and a long tail like a hair.
7. Where do the animalculæ come from? From close down amongst the ice-fields.
8. They must be conveyed some hundreds of miles, then? Very likely. The Antarctic current comes pretty close to this coast at Cape Howe. There it splits and goes to the eastward, and about 70 miles east of Cape Howe there is a whaling ground. There is a whaling ground in about 40 degrees south, and there the feed is always to be seen. The right whales go into the unfrequented bays around the coast of New Zealand, Campbell Island, and the Auckland Islands, for the purpose of calving. They have been chased off the New South Wales coast. They are being chased from Twofold Bay owing to the steamer traffic on the coast, but they still come up to the Great Australian Bight to calve.
9. What about the sperm whale? Their range in the southern ocean is right from the Equator to 60 degrees south, and almost right round the world, with the exception that the sperm whale has never been known to go round the Cape of Good Hope; they always make their passage round Cape Horn. They

 are

Capt. J. B. Carpenter. 26 Mar., 1885.

are distributed pretty well right through the tropics in the Pacific Ocean, right from the coast of Peru over to the coast of New South Wales. There are certain grounds, called the offshore and inshore grounds, where the whales congregate at certain times, and about the different islands. The sperm whaling grounds are generally close to the islands. At full, the change, and the quarters of the moon, a day or two before or after those times, the whales are always close inshore; but between those times we have to look for them off the shore, say about 20 miles off, and always in deep water. The sperm whale never goes on soundings under 100 fathoms, and it is very seldom they come on to that. The sperm whales on or near the land are a smaller species than those further south. They are gregarious and travel in very large herds, and they breed throughout the year.

10. Have they no fixed season for breeding? No; they breed right throughout the year. I have seen them every month in the year with small calves beside them, and I suppose they breed in about eight or nine months, because I have seen them with two calves, one a few days old and the other under a year old. After you get well down in the tropics, or just past the tropic of Capricorn, you generally find the whales large, the bull whales sometimes running from 70 up to 140 barrels. The cow whales very seldom exceed 40 barrels—it is a large cow whale that would make 40 barrels. The sperm season is right throughout the year. You will find them any season, but in different localities.

11. What about the humpback? The other whale of commercial value is the humpback. They always come from the south in the early part of May and travel up close inshore along the coast of New South Wales and New Zealand. They go up as far north as about 15 degrees of south latitude and collect all around the reefs and shores. They go up there to calve and remain there until about October. When the calves are old enough to travel with their mothers they start south again, generally taking the same track as they followed coming up, and no doubt they go down among the ice in the southern ocean.

12. What special advantages does the port of Sydney possess, so far as the whaling industry is concerned? It would be very advantageous to engage in whaling from this port. The whaling grounds are, comparatively speaking, close to Sydney, and whales are undoubtedly plentiful. Another thing in favour of Sydney is that it has such a fine climate—so much sunlight and fine weather—that the oil from the whales could be separated and clarified—which is mostly done by the sun—and placed on the market ready for use at a minimum cost. A few days sunlight will take the colour out of the very darkest whale oil and make it clear.

13. Are there any other whales worth looking after? There are no other whales worth going for. There are finbacks and sulphur-bottoms in the southern ocean. Those whales are of great size, but if you kill them they sink.

14. What is the origin of the term "right whale"? I think it was given to the Greenland whale by the early whalers. They found several species of whale in Arctic waters—finbacks, the rorq whale, or sulphur bottom, and the humpback. The name "right whale" was given to the Greenland whale on account of its being the one of most commercial value. They mostly sought after it, and in order to distinguish it from the others they call it the right whale.

15. Are the different whales you have mentioned numerous within the radius you have given;—do you think the whaling industry might be developed, and that such development would be of great commercial value to New South Wales? Yes, I do. At one time whaling was carried on with great success in Australia; but when the gold-fever broke out, all the whalers struck for the gold-mines, and there was nobody left to catch whales. That was how whaling broke up here. When I first went whaling, I sailed in company with over 500 ships in the southern ocean, right whaling in the season and catching sperm whales afterwards. In those days bone was worth only from 17 to 20 cents. per pound, and they always chased the whale that was worth the most—the sperm whale. About four years ago I brought bone into Sydney from the southern ocean, and it fetched 24s. 6d. per pound. The right whale of the southern ocean generally yields from about 800 lb. to 1,200 lb. of whalebone—that is baleen. We do not trouble about the other bones, although the bones of the whale would be worth £3 per ton for making animal charcoal; besides, in humpbacking there is not only the whales to make profit out of, but there are countless sharks, and they could be killed and their fins and tails turned into a marketable commodity.

16. What is the value of shark's fins and tails? They are worth in China from £120 to £130 per ton, and they give you £80 a ton here for them. When I had the "Costa Rica Packet," while they were cutting-in, I have caught from sixty to eighty sharks. I have caught sharks until I got tired of it, and cut their fins and tails off and let them go again. I dried the fins and tails. The Chinamen grade their fins. In the market you will see white sharks' fins—the fin black on one side and white on the other—that is the side fin of the shark; but the fin they cut off the back and the tail goes with the other. The white shark fins bring the biggest prices.

17. Is any use made of the liver of the shark? Yes; sometimes on a whaler the crew cut the liver and leave it in the sun. That draws the oil out. Shark oil is pretty valuable. We got half a tub full of oil from a great tiger-shark. There is nothing inside a shark but his liver. If the liver is boiled it will boil like a bullock's liver, and you will get nothing out of it, but if allowed to remain in the sun it runs away to nearly all pure oil. The oil is of a light amber colour, and very pure.

18. Have you any knowledge of the experiments made by the captain of the "Jenny Lind" in trying to capture whales on this coast last winter? The captain of the "Jenny Lind" has been to sea with me. He is a whaleman. He will catch a whale if he sees it—that is, he will try to catch it; but I do not think the men with him had enough experience.

19. Would the experiments have proved more successful if the captain had had practical men associated with him in the capture of whales? Yes, it would. If a whaling vessel were out here, I am confident, if I could take her out, I should bring her back so full that hundreds of people would want to put their money into whaling. If the Dutchmen will give me my money, I will fit out a ship and prove that what I have written and spoken about for so many years is a fact; but really there is no proof wanted. If you look at the statistics of New South Wales from 1826 to 1850, and see the quantity of whale oil and bone procured, it would astonish you; and remember, every bit of that was got within 1,600 miles of this coast. The American whalers come to these seas, get whales, and take the oil home, and it is sent out here and sold at a tremendous increase in price. Why should we not fit out our own whaling vessels in Sydney, send them to the grounds, capture the whales, and so supply ourselves with the oil and other things we want.

20. Are you aware of any other expedition that has been fitted out of late in order to search for whales in the southern ocean. Yes; I have read an account of the trip of the "Antarctic," the facts in connection with

with which, as elicited from the crew, I have undertaken to answer. The statement, and my answer thereto, are contained in the following paper, which I will with the permission of the Commission, now read: — Capt. J. B. Carpenter. 26 Mar., 1895.

THE Norwegian whaling barque "Antarctic" has returned, after an absence of six months cruise for right whales in the southern ocean, reporting that they had not seen a single right whale, and with the exception of one small sperm whale captured off the coast of Tasmania, totally unsuccessful. Mr. H. J. Bull, who was in charge of the expedition, has come to the conclusion that there are no right whales in the southern ocean, and that Captain Ross in his report of having seen large numbers of them must have been mistaken in the species of the whales he saw, and mistook the humpback for the right whale. A person who has once seen a right whale could never make a mistake, and certainly not Captain Ross and some members of his crew, for they had made several voyages to Baffin's Bay in whalers; therefore they knew one whale from the other.

A right whale has a smooth back, the humpback has a sort of hump or fin on his back, and their manner of spouting is totally different. It is impossible to confound the two species. The natural haunt of the right whale is in the temperate zone, not in the frigid.

Before whaling was carried to its greatest extent, the right whales in the northern hemisphere were to be found as far south as the coast of France on the European side, and Massachusetts on the American, in the Atlantic, and the coast of Japan, and California, and the Ockotsh Sea. The fact of their now being found in the northern ice is that they have been driven there by the whalers. That the right whale is in the southern ocean is an undisputed fact. Three-fourths of the oil and bone placed on the market for over 150 years has been procured in the southern ocean.

Fifty years ago, when Captain Ross reported right whales in high southern latitudes, he was no doubt perfectly right, for at that time there were over 500 ships from American ports, and about thirty-five from Sydney, chasing the whales in these waters, and had been doing so for the last sixty years or more, and had chased the whales from their natural haunts to the ice.

About 1847, the right whale and bon-head was discovered on the North Pacific Ocean about Japan and California, and there was a rush of whalers for that locality, and the southern whales were left apparently unmolested except by a small number of ships, and after the American war in 1865, only a few ships resorted to the southern ocean; consequently, the whales being unmolested, they have increased enormously, and have returned to their former feeding-grounds in the lower latitudes.

The range of the right whale in the southern ocean is from the west coast of Patagonia east to 170 degrees of west longitude. They come as far north as the Brazil Banks, and their range is from 34 degrees to 50 degrees south latitude. Outside of these limits it is useless to look for them. They have certain feeding-grounds where they congregate in the proper season, and to find them these places must be known; without that knowledge a ship might sail until the day of judgment without coming in contact with them. The southern ocean is a large place to search, and their feeding-grounds occupy only small areas. On a former cruise the "Antarctic" came across right whales, and saw several, but was unable to capture them, and the result of this voyage would have been just the same, even if they had seen a number of them, because their ship is not properly equipped for a southern whaling voyage, and there were no experienced whalemen in her crew, which can be plainly seen by the mode adopted in the capture of the small sperm whale mentioned above. The best argument that can be used in the present case is the fact that while the "Antarctic" has been cruising aimlessly about and seeing nothing, three ships have filled up with sperm oil in one place, and two American whalers have made a good catch of right whale oil and bone within 1,000 miles from Sydney in three months less time, and have been into port and shipped their catch to America. This plainly proves that an experienced man can find and capture whales, and an inexperienced one can roam over the sea for six months and never catch a glimpse of a whale. It also proves that whales exist in the southern ocean; and if further proof were needed, reference to statistics of New South Wales shows at the time Captain Ross reported whales in the ice fifty years ago, there was shipped from Sydney to London in five years, 4,851 tons of right whale oil and 520 tons of whalebone. I have caught right whales there also and brought the oil and bone to Sydney, and last season several right whales were seen from the shores off Twofold Bay, and one was captured.

The right whales are on their feeding-grounds in low latitudes in the summer months only, and go to the bays in higher latitudes in the winter to breed. The sperm can be found every month of the year. Humpbacks only in the winter months and in low latitudes, in the bays and among the reefs. In the summer months they go south, probably in amongst the ice. All the oil and bone shipped from Sydney and Bay of Islands was procured in the Southern Ocean.

Sydney, 25 March, 1895. J. B. CARPENTER.

I think this is the third time he has gone out from Melbourne. He got on the whaling grounds by a fluke, and if he had remained where he was he would have seen plenty of whales; but the equipment of the vessel is such that it is an impossibility for him to catch whales in the south.

21. Can you say, speaking in the light of your long experience in whaling, whether the port of Sydney might be made the depôt of a great whaling industry in the future? Yes, it can; and if ever I get the chance I will make it a whaling depôt. No one has tried harder to induce people to go into the whaling business than I have. If only one ship were sent out, and she proved a success, there would be plenty of capital forthcoming for this business; but they are all afraid to make a start. If people will only look back in the history of New South Wales they will see that before the gold fever broke out the whole of this place, and Twofold Bay also, got nearly all its money from whaling. It will be just the same again if you once get the whaling industry started here in Sydney. No money would go out of the country, as the crew would spend their wages here. As a result of the establishment of the whaling industry, other industries would naturally be started. In America, near the place I came from, they had nearly 47,000 men alone to chase the whales, and double that number engaged directly and indirectly on shore.

22. What is the name of the town you refer to? New Bedford; it is a great whaling centre in America.

23. Have you had a practical acquaintance with deep-sea fishing? No; but I have often observed the natives in the China Sea, around the coast of Japan, and up in the Malay Archipelago; they all have their own way of fishing, and I think some of their methods could be adopted here. Take the Javanese—there are very few surface fish up in those waters, and they have to catch their fish from the bottom, they go out so far. Sailing along the coast of Java and Madura, sometimes 40 miles away from the shore, you will come across a lot of bamboos sticking up in about 40 fathoms of water; these bamboos are pointed at the ends, and the fish go into the trap, but cannot get out again. When you see those bamboos above the water, you know that it is a fish-trap placed there by the natives.

24. Can you describe the trap in question? It is made of bamboos. It is a basket about 6 feet long and 3 feet wide, and about 18 inches high. I have been thinking of trying it myself out on Long Reef. You make the mesh of the basket so that the very small fish can go in and come out; but the big ones cannot leave the trap. By using something like that on our coast you would get schnapper and other fish, plenty of them. The natives up there in the East go out into the deep water, miles away from land, and put those baskets down and catch plenty of fish. The natives sink their baskets, leaving a few bamboos above the surface to mark the place, and in that way they get them full of fish. That system could be employed on this coast, on the rocky bottoms and places where we could not trawl. In Siam I have loaded fish in my ship. The fish are salted in the ship. The fish are like herrings, about 8 inches long. The natives call them plahenge. Those fish are caught at the bottom of the river. I suppose they are the fish bred in the river, and those that are not captured travel out to sea when they get to a certain size. The natives keep this

Capt. J. B. Carpenter. 26 Mar., 1895.

this fish alive by forming a kind of pen into which the fish are driven, and the natives go in at low-water, and dip up immense quantities of them. The natives sink the fish-trap or pen to the bottom of the river, and in one single tide those traps will catch large lighter loads of plahenge. They bring them up the river and put them into the ships, head downwards, in regular rows. They put a layer of fish right through, from one end of the vessel to the other; the layer is at the bottom of the ship and the fish are standing on their heads, with their tails uppermost. Then they put a layer of salt on top, and follow that with a layer of fish, another layer of salt, and so on until the ship is full. I have loaded 7,900,000 of those fish in one shipload, and I took them to Java, and my ship was only one of about 120 others engaged in the same work. That happens in that country every year, from October to the end of January. The fish caught in the river at Siam are readily disposed of at the ports in Java; there is an immense demand for fish in all those countries. It would be just the same if these shoals of fish that pass our coast were caught and salted—there would be a market for them right throughout the Malay Archipelago. All the natives live on fish, when they can get it. Notwithstanding the fact that thousands of fishermen follow their calling in China, there are thousands of tons of fish imported into that country from Saigon, Siam, and wherever they can get it.

25. Are you of opinion that if the shoals of fish which pass our coast at certain seasons of the year were captured and salted a market could be found for them in China and the East? Yes, salted fish; there would be a good market for salted fish.

26. What about tinned fish? I do not think it would sell so readily up there.

27. And what about smoked fish? It would sell readily. You do not want to split open the small fish; just drysalt them and send them away. The large fish should be split open, gutted, and salted.

28. Would it be advisable to remove the backbone? In some cases it is removed, not in all. I may say I have carried fish that have come 1,500 miles from the rivers in China, and when they have been placed in the market in Hongkong they have been alive and kicking.

29. How did you carry them? Well, on our steamer we had four fish-tubs on either side of the deck. They were about 8 feet in diameter and 3 feet high—just big tubs. We filled those tubs with water from the river and dropped the fish into them alive. On the passage down to Hongkong we kept a Chinaman constantly baling the water out of one tub into a bucket overhead, from whence it returned to the original tub. This process was kept up during the whole of the voyage, and it kept the water sufficiently aerated. The fish were in very good condition when they arrived at Hongkong. The people bought the fish alive in the market at Hongkong. You could bring your fish alive from the Murray River to Sydney by adopting a similar mode of conveying them to market. The Chinese fishing-boats go out from 10 miles up to 500 miles from the land. Two boats always go together, good-sized junks, and they catch large quantities of fish. They pick out the best edible fish and put them in their wells. They keep their fish alive in the wells for a fortnight and more. When they make a big catch of albicore and skipjacks they split them down the backs and salt them. Weights are then put on the fish, and when they get to land they are spread out and dried in the sun.

30. Is there good market accommodation in Hongkong? One market does for everything there. It is like most native markets. I think the native, take him all round, can give points to the European in fishing.

31. Have you seen their system of hand-line fishing? There is a place in the Equatorial Islands where they have to use all sorts of stratagems to get the fish to bite. You will see a native sitting in his boat and it may be that his hook is 200 yards away in the water. The fish will not bite while the boat is handy to them; but the natives are very ingenious and they know how to catch the fish.

32. Then you are of opinion that New South Wales might even send fish to the East? I would like to say there is an immense market for all kinds of fish in the East. There are millions of people in Java who would buy them, and the natives in the other islands would also purchase our fish. They are great fish-eaters up that way, and we could send immense quantities of the fishes that frequent this coast in shoals to those eastern countries if they were properly treated.

33. Are the fish sold ready cleaned in the market at Hongkong? No; just as they are caught.

34. Have you had any experience in trawling? No.

35. *Mr. Thompson.*] You think it would be quite possible to establish a lucrative trade between New South Wales and Java? In Java and India and over the Dutch East Indies. Then again, I have not the slightest doubt but what you could establish a trade in fish with the South Sea Islands if once it was started. If salt fish were introduced there it would sell. If the natives have not got money they have something which is better than money, because you could make a profit both ways out of what they would give you for the fish.

36. Then, in your opinion, there are great possibilities for a big export trade in fish? Yes; that is so, especially if they bring in fish alive here. They would do much better by bringing the prices down if they found people would buy more fish, and it would be better for everybody. Let the fishermen sell their own fish; let them bring them in alive in well-boats. I would guarantee to keep fish alive a month in a tub of water. So long as you keep the water in proper circulation you can keep your fish alive.

MONDAY, 29 *APRIL*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 1·45 *p.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Carsten Egeberg Borchgrevink, Esq., Scientist, attached to the exploring vessel "Antarctic," sworn and examined:—

C. E. Borchgrevink, Esq. 29 April, 1895.

37. *President.*] You were a scientific member of the expedition sent out to the Antarctic Seas, to ascertain whether the right whale existed in any numbers, and whether the whaling industry could be successfully prosecuted in the Southern Ocean? Yes; I was scientist on the "Antarctic," and the expedition was sent out by Svend Foyn, a wealthy Norwegian whaling-master, for the purpose of seeing whether the right whale existed in any great numbers in the Southern Ocean.

C. E. Borchgrevink, Esq. 29 April, 1895.

38. Would you be good enough to acquaint the Commission with the results of your observations in those latitudes—did you encounter the right whale in the far south? We did not meet the right whale; we did not see one right whale within the Antarctic Circle while I was on board the "Antarctic." On a previous voyage made by the "Antarctic" to the far south, they saw right whales in those waters; but, speaking for myself, I saw no right whales. We met with the blue whale in any numbers; there were great numbers of blue whales, which are known as finbacks down in those waters. We had not the appliances with us on the "Antarctic" to capture those blue whales, so we got no great profit out of them. If we had had suitable appliances for their capture, we would have been able to fill the "Antarctic" up with blubber and bone. Both the blubber and the bone are very valuable. We shot fast into four blue whales, but our lines broke; this was owing to our not being properly equipped for the capture of these whales. The blue whale sinks directly it is shot. This whale is about 80 feet long, and weighs about 90 tons. The right whale and the sperm whale float on the surface after being shot. Svend Foyn recently perfected a special apparatus for the capture of these blue whales. Before that time the blue whale could not be taken with success; but it can now be captured by using the appliances I have spoken of.
39. Do you consider the blue whale of considerable commercial value? Yes, I do. All the parts of the blue whale can be made of commercial value. The blubber and bone found in this whale are of considerable value, and the other parts of the whale could be turned into exceedingly good manure.
40. Did you see any other species of whale in those waters? We saw a small whale—a fin whale—and we caught three or four of them. They make excellent beef. The beef is excellent eating; the people on board the "Antarctic" ate some of this beef, and it is good meat. This whale is from 20 to 30 feet long. It might be made of commercial value; but the bone in it is small. Strange to say, in the northern seas this particular whale is not considered to be of any great value; but the same species in the Southern Ocean might be made of value.
41. Is there any other species of whale in those latitudes that would be worth looking after, from a commercial point of view? We had a white and black whale down there; this whale had a very big fin sticking high out of the water. The fin must have been 3 or 4 feet long. It was a large-sized whale, and it had white stripes. The natives of Stewart Island—we had one of them on board—called this particular whale the killer.
42. Is that because it is regarded as an enemy to the other whales? Yes, I believe so; the killers are great enemies of the whale species.
43. Do they grow to any size? The one we saw in the Southern Ocean was about 50 feet long.
44. I suppose you had no opportunity of judging whether it could be turned to account, and made of commercial value? No, I had not; but I do not think it is considered of much value.
45. Did you see any other species of whale on your trip? We caught the sperm whale a little to the south of Tasmania. We saw sperm whales in very great numbers. When the "Antarctic" was just within sight of the southern part of Tasmania, we saw a great number of sperm whales.
46. What time of the year was that? It was in March of this year.
47. Do you think sufficient evidence has been gained as a result of this expedition to warrant further expeditions being sent out? As to whales?
48. Yes? I do, certainly. If I had the money to invest in whaling out here I would go in for it at once.
49. Would the port of Sydney form a suitable depôt for vessels engaged in whaling in the Southern Ocean? Yes, undoubtedly it would; it is the port of all the Australian ports. There could be no choice. Sydney must have it. Sydney must be the depôt for the whaling fleet in the Southern Ocean if you can establish whaling on a large scale.
50. Are you surprised that nothing has been done in developing the whaling industry in these waters? Yes; very much so. Whaling has been taken up and laid down again. Seeing that it once paid very well out here, it seems to me very strange that they do not try and go in for it again. They should try and find the proper hunting-grounds and go in for the capture of whales. It astonishes me greatly that the people of Australia have not done this, seeing that it paid so well in former years.
51. I suppose the people of Norway look upon whaling as a national industry? It is a great industry; it gives employment to a great number of people directly and indirectly. Svend Foyn, who was a great whaling master, made several hundreds of thousands of pounds by whaling in the northern seas.
52. Can you give us an estimate of the cost of a fully-equipped whaling vessel? I would rather the Commission took Mr. Bull's opinion on that matter. He was the commercial man of the expedition. I desire to record my experience from a scientific point of view only. I think whaling would be a very great success down in the far south. We landed on one part of what is supposed to be a great south continent, and we found a harbour there—a sheltered harbour in which vessels could take refuge. We saw plenty of blue whales, and there is not the slightest doubt that the capture of these whales could be made a very valuable industry.
53. How many days' steam would it be from Sydney to that unexplored continent you refer to? If you went straight down in a steamer of 12 knots, down Ross's Track, you could reach the Great Southern Land in a fortnight. Sydney would form a splendid place for whalers to sail from, and when they filled up they could return to this part, unload, and refit for further voyages.
54. Are there deposits of guano on any of the islands in the Southern Ocean or on the mainland? Yes; there are deposits of guano at several places.
55. Could those deposits be worked;—could that guano be made an article of commercial value? Yes, and of very great value. I brought some specimens back from Possession Island and from the mainland, and I believe it could be made an article of great commercial value.
56. *Mr. Thompson.*] Did you see any whales while you were on the Australian coast? Yes; lots of small whales. We saw them blowing away all round. I saw a number of whales during my passage up in the steamer from Melbourne.
57. Do you think whaling could be successfully pursued on the New South Wales coast? I can hardly give an opinion on that matter; I have not studied the question sufficiently. I am told whales are often seen on this coast, and even off Sydney Heads; but I have not gone into the matter. I may say that on the first voyage of the "Antarctic"—I sailed in her on the second voyage—they both saw and killed a right whale at Campbell Island.

C. E. Borchgrevink, Esq. 29 April, 1895.

58. You said there were special appliances for the capture of the blue whale; can you describe them? It is a little steamer of 75 tons, carrying a very heavy gun in the bow and discharging a harpoon containing an explosive point. When the harpoon enters the whale it is closed and laying back. On entering the whale, when the strain is on the rope, it opens and the explosive charge is fired, and this kills the whale.

59. But you said the blue whale sinks;—does the apparatus prevent the loss of the whale? Yes; the apparatus invented by Svend Foyn prevents the loss of the whale.

THURSDAY, 2 MAY, 1895.

[*The Commission met at the Offices, Bligh-street, at 1·50 p.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Henry John Bull, Esq., late manager of the Antarctic Exploring Expedition, sworn and examined:—

H. J. Bull, Esq. 2 May, 1895.

60. *President.*] What is your name? Henry John Bull.

61. I understand you were manager of the expedition sent out from Norway to the Antarctic Ocean in order to ascertain whether the right whale was to be found in those latitudes? Yes; that is so.

62. Would you mind acquainting the Commission with the results of your observations in those waters? I will do so with pleasure. We sailed from Norway in the steamer "Antarctic," in September, 1893, with the object of going to South Victoria Land, to ascertain if right whales were to be found in those waters. We did not get far enough south on that voyage, so we decided to run in to Kerguelen Island in order to replenish our water-tanks, intending to pursue our voyage to South Victoria Land when we had filled our tanks. On reaching Kerguelen Island we found plenty of sea elephants there, and we captured a great number. After we had done this, as the whaling season, or the summer season for going south, was pretty fairly advanced, we filled up with sea elephants and proceeded to Melbourne, at which port we disposed of the oil from the sea elephants, and the skins were sent to London.

63. When did you reach Melbourne—what month was it? We reached Melbourne in February, 1894. After that we went away again. We made for Campbell Island, to the southward of New Zealand, looking for whales.

64. Were you on the "Antarctic" during the voyage to Campbell Island? No; I was not on the "Antarctic" on that voyage, but the captain and crew saw the right whales there. They caught one right whale, and made fast to others, which, however, were lost again.

65. Did the "Antarctic" return to Melbourne from Campbell Island, or did she go straight down to the Antarctic? The "Antarctic" returned to Melbourne from Campbell Island in August, and we sailed out of Hobson's Bay in September, 1894, with the intention of going to South Victoria Land. On making the 64th degree of latitude we sighted many large whales, and from 64 to 74 degrees we saw large whales nearly every day.

66. What species of whale are you alluding to? I am referring to the species which we in Norway call the blue whale. That particular whale is known out here as the finback or sulphur-bottomed whale. We saw those whales in great numbers. They were spouting about in the open water, and also amongst the pack ice. We shot fast to some of them, but the whales, after being shot, broke the line and escaped, we not having the proper appliances to capture them with.

67. Then the "Antarctic" was not properly equipped for the capture of that species of whale? The fact is, with a heavy vessel like the "Antarctic" they cannot be taken; because when we shot fast to them, the whale, being of immense size and prodigious strength, proved altogether too strong for the rope, which eventually carried away. Those blue whales could be captured by employing vessels similar to those now in use in Norway, small, but powerful well-equipped steam vessels, we call whale-boats. Norway is the only place in the world I know of where the blue whales are captured with success, and those small steam vessels I have spoken of are used in their capture.

68. Did you see any other species of whale besides the blue whale? We caught a couple of small whales which we made beef of, and consumed on the "Antarctic," but they were not of great value.

69. Any other species of whale? We saw a few more species that I cannot name. We also saw a whale similar in appearance to that described by Sir James Ross; it has a very large fin, and is known as a killer.

70. Did you see any right whales on the expedition to South Victoria Land? No; not one.

71. But it is a fact, is it not, that right whales were seen in the vicinity of Campbell Island, to the southward of New Zealand? Yes, that is so, the people on the "Antarctic" saw right whales there, they caught one and made fast to others; Campbell Island is about 53 degrees south latitude, to the south of New Zealand. I was not on the "Antarctic" when she made the voyage to Campbell Island.

72. Do you think sufficient evidence has been gained by the expedition to warrant the sending of further exploring expeditions into the Antarctic Ocean, I mean speaking from the scientific and commercial standpoint? Yes, I do; I am fully convinced that another expedition would prove successful; the blue whale fishery alone should prove, if properly developed, of immense value to New South Wales, and we know besides that right whales and sperm whales are all over the Southern Ocean.

73. Would Sydney form a suitable port or depôt for the vessels engaged in the whaling trade in the southern seas? Yes, a very suitable port indeed; I think Sydney is the port on the Australian Continent; Hobart is also a good port.

74. Do you think whaling in the Antarctic Ocean could be developed to such an extent that the industry might be made of national importance to Australia? Yes, I am sure of it; there is an immense future before the whaling industry if it is taken up in a proper manner.

75. Can you furnish the Commission with an estimate of the cost of a fully equipped whaling expedition, I mean an expedition that might be despatched to the southward for the purpose of engaging in the whale fisheries? Yes, I have made out an estimate, and in the estimate of the cost of such an expedition, which

H. J. Bull, Esq. 2 May, 1895.

which I will submit to the Commission, I have been careful to keep well within the mark. My statement is based on the purchase of two whaling steamers similar to the "Antarctic," and one small steamer of about 60 tons for killing the whales. The two larger whaling steamers would really be used as store ships. 76. I suppose the smaller steamer would be employed in the capture of blue and other whales, and you would have your tanks on board the two larger vessels, and these would be filled up with oil and so forth as the whales were taken? That is so, I will give you the figures:—

Estimate of cost of two Whaling Steamers (auxiliary), and one small Steamer of about 60 tons, for Whaling South.

Purchase money in Norway, 2 whalers		£10,000	
,, ,, 1 small steamer (for killing)		3,500	
		£13,500	
Thorough overhaul, &c., before leaving		1,500	
			£15,000
Outfit, &c., from Norway to the Antarctic and back to Australia, calculated to occupy 8 months, viz.:—			
Wages per month for one whaler—			
Captain	£10		
Chief officer	7		
Second ,,	6		
Chief engineer	7		
Second ,,	6		
First carpenter	4		
Second ,,	3		
Blacksmith	4		
Boatswain	4		
Sailmaker	4		
Steward	4		
Cook	4		
Six A.B. sailors, £2 10s.	15		
Ten mixed sailors, £2	20		
Wages total		£98	
Provisions—			
28 men—30 days at 1s. 6d. each per day		63	
Total wages and provisions per month one ship		161	
Or for each of the two whalers for 8 months		1,288	
Total for both ships		£2,576	
Crew of the small steamer, per month—			
Captain	£8		
Mate	6		
Engineer	7		
Second engineer	5		
First gunner	12		
Second gunner	8		
	£46 0 0		
Provisions, 6 men, 30 days at 1s. 6d. each	13 10 0		
	£59 10 0		
Total for eight months		476	
600 tons of coal from England, at 10s.		300	
Oil and requisites to engines, about		100	
Salt for preserving skins (seals), 40 tons at 15s.		30	
			3,482
			£18,482
To meet unforeseen expenses, &c., add			1,518
Total			£20,000

Estimate of value of whale oil and whalebone by two whaling vessels and one small steamer from the Antarctic.

40 fin whales (blue whales) will yield 400 tons of oil, at £16 per ton		£6,400	
In Norway, we calculate 3 whales to give 2 tons of bone, or 40 whales 28 tons—but say, 25 tons whalebone, at £350		8,750	
			£15,150
Less expenses—			
2,400 empty casks (for oil), at 4s.		480	
Port charges, &c., for both ships and steamer		300	
Commission, London and Australia, 2½ per cent. on £15,000		375	
Management		500	
Crew's share at home is usually one-sixth of gross amount, and would, in this case, be about		2,000	
			3,655
Balance			£11,495
From this amount to be deducted—Outfit and other expenses concerning voyage			3,482
Actual net			£8,013
To meet the capital invested in the vessels, viz.:—			
Purchase money		£15,000	
Unforeseen expenses		1,518	
		£16,518	

NOTE.—The outfit will be greatly reduced when the vessels can leave Australia the following year, a trip south from this quarter not necessarily occupying more than four months.

Melbourne, 27th March, 1895.

77.

H. J. Bull, Esq. 2 May, 1895.

77. What, in your opinion, would be the result of such an expedition as you have suggested—supposing two store ships and a killer were sent to the "Antarctic," what would be the result of such an expedition? I think they would capture a sufficient number of whales to net probably £8,000 on the one whaling trip. In the statement I have furnished to the Commission, it is quite possible that the expenses may be reduced in some respects.

78. *Mr. Thompson.*] Are sea elephants plentiful on Kerguelen Island? Fairly plentiful on Kerguelen. It took us six weeks to capture 1,600 sea elephants, but I should add that we were very much delayed in our work at the island by bad weather.

79. Do you consider Kerguelen Island the home of those sea elephants? I cannot say; they make for Kerguelen during the breeding season, which is from November to February, and then they leave again and go no one exactly knows where.

80. Between what latitudes did you find the blue whale? We found them all through, from 64 degrees south to 74 degrees south.

81. In this Antarctic work the vessels would only be employed during some few months of the year? That is so.

82. Could not then the same vessels be used on the Australian coast during what might be termed the off months? Yes, certainly; that would bring further profit to a company.

83. *President.*] The Norwegians have greatly developed the blue whale fishery, have they not. I understand that the blue whale fishery gives employment to a very large number of men? Yes, that is so. Since 1865, when Captain Foyn, the owner of the whaler "Antarctic," started the blue whale fishery off the Norwegian coast, the industry has been developed by degrees until in 1894 there were employed in that particular whale fishery no less than forty-four steamers, having 912 men on board and at the establishments ashore. That whaling fleet in 1894 killed about 1,528 blue or finback whales. Those whales yield a large quantity of oil, and the fishery proved very valuable indeed; the exact figures I am unable to give you. In addition to the whaling stations in connection with this fishery on the Norwegian coast, other stations have been established by Norwegians in Iceland, where blue whale fishing is carried on with considerable success. In addition to this, seventeen steamers of the "Antarctic" type are engaged at present from Norway in sealing in the Arctic Seas. Those steamers gave employment to 839 men during the last season. There is also a particular whaling business carried on in the open seas between Iceland and Norway which we call the bottle-nosed whale fishery. During 1894 sixty-three steamers and sailing vessels, all hailing from Norway, were engaged in that trade. They killed 2,767 bottle-nosed whales; that fishery alone gave employment to 936 men. When the blue whale is brought ashore the blubber is cut up and taken off, and the carcases are turned into manure.

84. I suppose these whale fisheries give employment to a considerable proportion of the population, both directly and indirectly? Yes; directly upwards of 3,000 men are employed in capturing the whale and in cutting up the blubber and trying it out. Indirectly employment is found for a host of other persons in connection with the whale fisheries. Every particle of the whale is utilised, the carcasses are turned into manure.

THE OFFING FISHERIES—WELL-BOAT FISHING, TRAWLING, &c.

WEDNESDAY, 27 MARCH, 1895.

[*The Commission met at the Offices, Bligh-street, at 10·30 a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

The Hon. R. H. D. WHITE, M.L.C. | L. G. THOMPSON, Esq., J.P.

Captain Joseph Coulon, late master of the schooner "Dauntless," sworn and examined:—

Capt. J. Coulon. 27 Mar., 1895.

85. *President.*] Your name is Joseph Coulon, and you were captain of a fishing vessel; are you a certificated master? No; a licensed fisherman.

86. You were proprietor of the "Dauntless?" Yes.

87. What was she—a schooner? Yes, a schooner; she registered 22 tons.

88. Is that the boat that was lost through a collision with the "Jones Brothers" off Barrenjoey? Yes.

89. How long ago? On the 26th November, 1894.

90. Had you been on a fishing expedition? Yes. I was then bound for Bird Island, Bungaree Norah, and Catherine Hill Bay. Those are three of my principal fishing grounds. I have always caught fish there.

91. Had you a well in your schooner? Yes.

92. What was the length of your schooner? She was 47 ft. 6 in. over all.

93. What was the breadth? 12 ft. 10 in.

94. What was the size of the well in the "Dauntless?" It was 12 feet by 12 by 4 feet. There was always 4 feet in the well from the top of the keelson.

95. Had you had any experience in well-boat fishing before taking charge of the "Dauntless?" Yes; my brother and I were two years well-boat fishing before I got the "Dauntless."

96. What did the "Dauntless" cost you for building and for her equipment? She cost me £525.

97. Had you made any trips with the schooner and brought fish into the market? Oh, yes; I had been fishing for seven months in her. I brought fish into Sydney alive and put them on the floor at the market. On my first trip I fetched fish from Jervis Bay. Wreck Bay was my greatest fishing place, and off the Banks and off the lighthouse. I brought ten baskets of fish into Sydney on my first trip.

98. What kinds of fish? Schnapper, teraglin, and cod; some morwong, different classes of deep-sea fish.

99. How long were you in making that catch? I was three weeks on that trip.

100. Did you keep the fish alive during that period? Yes, I did. I caught those fish in the first three days I was down there. I got jammed in Jervis Bay at the Hole in the Wall. I was jammed there a fortnight, with a heavy sea and bad weather.

101. Did you feed your fish while they were in the well? Yes; I was three weeks and three days from the time I put the first fish in until I reached the market.

102.

Capt. J. Coulon. 27 Mar., 1895.

102. Did the fish take kindly to their food? Yes, after three days, but you must have the food for them when you first put them in the well; that is the art of fishing. You prick them. Nearly every fish has to be pricked, and you require to keep them alive by suction before they will go to the hard bait, and then the hard bait has to be chopped up for them. I have seen garfish come into the well at night, but they do not stop there very long, the schnapper would eat them up. I have great confidence in well-boat fishing; it can be made a great success, but I have not the gear.
103. What do you mean by suction? I mean that we have to feed the fish during the first three days while their mouths are sore. We feed them with oatmeal sprinkled on the water. They would eat this readily and after three days they would eat the hard bait, shark, and other bait, but the fish in my well would not take stale bait. They used to get fat on the oatmeal and after a fortnight they would come and take the bait—shark—out of my hands, they got that tame. While I was feeding the fish with oatmeal I shut the valves, so as not to allow the suction, as I call it, to flow out; I would open the valves when I wanted the sediment and slime to flow out. When the well is in motion, I mean through the motion of the vessel, it takes the sediment off the water, and off the fish, and the fish are kept clean.
104. Where do you prick the fish, behind the pectoral fin? No; it used to be done, but it had the effect of piercing the liver, and the fish would die. I prick the fish about three-quarters of an inch forward from the ventral fin. In June, July, and August they are full of wind; they wind more readily then than at other times in the year. After pricking the fish I close the scale over the prick in order to prevent the ingress of water, and then I drop the fish tail first into the well and he will live alright.
105. Was your well constructed on a different principle to those generally used? Far different to any other well-boat I have seen. In other well-boats I have seen the fish have been too much confined altogether. I had only a centreboard in my boat, the object being to allow of the water being kept level. Where the others make the mistake is in putting in too many cross-pieces and partitions, and keeping the water still.
106. Have you fished in other grounds besides Jervis Bay, and the grounds to the south of that water? I have fished from off the Clyde River to Catherine Hill Bay.
107. How long have you been engaged in fishing altogether off the coast of New South Wales? I have been fishing four years with the well-boats.
108. From your experience are you of opinion that the system could be carried out successfully in New South Wales? Yes; it can be, if it is carried out in a proper way, but there should be no stinting in the material and gear. I had not the means to get the gear to fish with. I have only had the long lines, the hand line, and the drift line. If I had the lines, the gear, the net, and proper equipment, I could do splendidly. I could go south and run into Jervis Bay and catch any amount of fish.
109. When you brought your fish to market did you come up the harbour and anchor in Woolloomooloo Bay? The first trip I came right up to the baths in Woolloomooloo Bay. I lay there five days, and the fish never died. I came up again two trips afterwards and lay in the same place, and the fish died within ten hours.
110. Was that owing to the water being polluted? Yes; there had been very heavy rain. If I had known that I would have stayed at the Bottle and Glass. The reason I lost my fish was that I did not know there had been heavy rain in the city, and they were filled with fresh water—it was that killed them.
111. Do you think the system of placing fish in fish tanks moored in pure salt water would answer here? Yes; you could put them in tanks down at the Bottle and Glass, near Watson's Bay.
112. What did you get for the catch on your first trip? I can give you what I realised on one trip. I brought seven baskets of fish alive to the market, and I received £10 clear for that quantity.
113. How long had it taken you to obtain that quantity? Three weeks.
114. Was there anyone else with you? Two hands besides myself, but if I had had favourable weather I should have saved a fortnight's delay at least. Actually out of that three weeks I had not fished three times on the grounds. All along the coast, from the Toll Gates off the Clyde River to Point Perpendicular, thence along the Black Rocks to within 2 miles of Ulladulla, you can get enormous quantities of fish.
115. Have you fished off the Tweed Heads at all? No, I have not. Captain Arthur, who I understand is to be examined, has fished off that place. Captain Arthur has an excellent knowledge of the different fishing grounds along the New South Wales coast.
116. You say the Bottle and Glass in Watson's Bay is a good place to keep fish in, in well boats? Yes, it would be; you must not come into the fresh water. You could run into Watson's Bay and stock your fish tanks, and then clear outside again for your supply of fish.
117. Have you had any experience in trawling? No, only with the long lines and side lines. I have a side line of wire fastened from the bow of the boat. The hooks are 5 feet apart, with swivels fastened on to the wire, and the lanyards fastened on to the swivel.
118. Why do you call them side lines? Because the line always hangs from the side of the vessel, fastened at one end by the bowsprit head, and the other by the stern.
119. Have you ever done any whaling? No.
120. Have you ever seen any whales on the coast? Any quantity of them.
121. Of what species were they? I have seen the sea off the coast of New South Wales thick with right whales, that was two years ago, you could see the whales as far as the eye could reach. I was off Cape St. George when I saw those whales; it was in July two years ago. I have also seen sperm whales off the same place. On one trip I saw upwards of twenty whales between the Clyde River and Port Hacking. That was the time the "Jenny Lind" was out. I have been sailing close alongside the whales on the coast—they were all about, blowing and spouting, but the "Jenny Lind" was further out to sea and she missed them. All the whales were close in; that was last winter.
122. Are you of opinion that the whaling industry could be revived? I think it ought to be revived; if I had had the gear I could have fastened on to the whales I saw right enough. I used to run right on top of them in my schooner. They were blowing about all day long. I saw a big whale 40 or 50 feet long off Port Hacking Reef, but the "Jenny Lind" missed her.
123. Have you a pretty good knowledge of the bottoms along our coast? Yes, I have. Where I have been I have found it reefy, and then the reefs were followed by banks of sand.
124. How far out from the coast would that be? About 5 to 7 miles.
125. Do you think if the bottoms are found to be suitable trawling operations could be carried out successfully in New South Wales waters? There are places you can trawl on this coast; there is no doubt they exist. There are places where you will go for 2 miles over banks where you can catch whiting, soles, flathead, and flounders.

Capt. J. Coulon. 27 Mar., 1895.

126. Do you think the Government should institute a trawl survey of the coast? Yes, I do. There are big grounds off Port Stephens, and off the Nine Mile Beach, off Lake Illawarra. There are good trawling grounds there. It is a good sandy bottom.
127. Your experience of the New South Wales coast has extended over what period? About thirty-five years. I have been on the coast all that time. I did not get a certificate because I never ran passengers in my vessels.
128. The fish that died in the wells, did you cure them? Yes.
129. How did you cure them? By putting them in brine and drying them, and then they were ready for sale.
130. Have you ever come across any indications of deposits of oysters in the deep sea? Only the one in Jervis Bay. The oysters there are big ones, about the size of your hand.
131. *Mr. Thompson.*] You say you know a number of the outside fishing grounds? Yes, all of them between here and the Toll Gates, off the Clyde River, and from Sydney to Lake Macquarie northward.
132. If the Commission supplied you with a chart, would you aid them by marking out those grounds on it? Yes, I would be very glad to do so.
133. *President.*] Do you intend, now that you have the case arising out of the sinking of your schooner practically settled, to re-engage in well-boat fishing? Yes, if I can manage it, I shall do so.
134. Is this Commission to understand that it was only on account of the accident, by which you lost your schooner, that you have been prevented from continuing your fishing operations? That is so.

Captain Robert Arthur, fisherman, Botany, sworn and examined:—

Capt. R. Arthur. 27 Mar., 1895.

135. *President.*] You reside at North Botany, and your name is Robert Arthur? Yes.
136. You have a sobriquet? Yes; I am known to the fishermen and others as "Yankee Sam."
137. How long have you resided in the Colony? About twenty-six years.
138. During that time have you had a considerable experience in connection with deep sea fishing? Yes; I have put more fish into the market than one half the men who have been at it all their lives.
139. How long have you been fishing off the coast? Sixteen years off and on.
140. Did you use a well-boat? I have never used a well-boat.
141. How did you send your fish to market? By train and steamer.
142. Did you have good catches? Very good catches.
143. What kinds of fish did you catch? Schnapper and net fish.
144. Where have you fished chiefly? Between Sydney and the Clyde River.
145. Where did you find fish life most prolific? On the Sir John Young Banks, very wide.
146. How far off the coast? About 10 miles E.N.E. from Beecroft Head. I have taken great quantities of fish in Wreck Bay. There is another place, Browlee; a place off Ulladulla is another great place, and so is Brush Island, 7 miles south of Ulladulla.
147. Have you fished any grounds to the north of Sydney? Yes; right away from Port Stephens to Cape Moreton.
148. Where did you find the best grounds within those limits? Off the Edith Breakers.
149. Where are the Edith Breakers? A little to the northward of Seal Rocks. There are good grounds 5 miles E.N.E., off Cape Hawke, and 3 miles east of the old Manning Bar, Kirby Shoals about a mile and a quarter east of Crowdy Head, and the Mermaid Reef between Crowdy Head and Camden Haven. There are also other good grounds 3 miles east of Tacking Point, and at about 2 miles off Corregorra, near Smoky Cape. Then again there is another fine ground off the Fish Rock at Smoky Cape; that is where the large black rock-cod are found in quantities; those cod weigh from 100 lb. to 150 lb. The next ground I know of is about 3 miles E.N.E. off Smoky, abreast of Yallahapnie, and you can take right along there from that ground right north to the Bellinger River and you will get good fish all the way. The next ground I know of is a place called Green Point, 12 miles north of the Bellinger. Then you can go north from the Solitaries to the Red Rocky River; you will find fish all along, good fish, both inside and outside the Solitary Islands. It is a great piece of ground and it has never been explored, although I have caught fish all along that ground. From the Sandon River right up to the Clarence Heads is an excellent fishing ground for schnapper, and here again on the Sandon Shoals you will find the big rock-cod very plentiful. This gound is not rock; it is a coral formation and the large cod frequent the place in great numbers. In the Sandon River you will also catch enormous blue-nose whiting, and very large crabs. Between Woody Head, 7 miles north of the Clarence, and the entrance to the Clarence River, there is a splendid sandy bottom, over which you could use the trawl freely and catch all kinds of fish,—flathead, soles, flounders, and whiting. The next place I know of is Evans' Head Reef; there you will catch any amount of schnapper. From there to Lennox Head, north of the Richmond River, is an excellent trawling ground of sandy bottom, and many varieties of fish could be taken. To the east of Lennox Head is a good schnapper ground. There are a few sandy bottoms between Lennox Head and Byron Head which would be suitable for trawling. Anywhere from half a mile to 5 miles to the eastward of the Byron you will get good schnapper, and from there down to the Brunswick Heads in Byron Bay is all a trawling ground. From the Byron to Point Danger you will get schnapper in great quantities, off all the headlands, and you could trawl on all the bottoms which are sandy.
150. Do you think that with a well-boat, properly equipped, the fish frequenting the grounds you have enumerated could be brought into the Sydney market in a fresh condition? I do; I have every faith in it.
151. Have you known fish to be kept alive in well-boats for any length of time? I have. I have known us to keep fish in a sort of a well for seven days; that was in a 24-foot boat.
152. Did you feed them during that time? Yes.
153. How did you prick their bladder? Some prick them under the pectoral fin, and others prick them near the ventral fin. I believe in pricking them near the ventral fin. When the "Rachael Thompson" was here I took the trouble to examine some fish that had died after being pricked, and I found that there was a black mark on the liver. To my mind that was clear evidence that the lance had burst the liver. Had they been pricked at the ventral fin that would not have occurred.
154. What kind of pricker would you recommend for use? I would recommend the trocha and cannula made of silver, and of a proper size.
155. Have you known fish after being kept in the wells some days to take their food freely? I have.

Capt. R. Arthur. 27 Mar., 1895.

156. And have they improved in condition? The only fish I have seen improve in condition were those kept in the well of the "Dauntless," belonging to Captain Coulon.
157. What in your opinion should be about the size of the well in the boat? I would have a boat about 50 feet long, with a well about 15 feet by 12 and 4 feet depth of water.
158. Do you think the centreboard is sufficient to prevent the fish being killed by the roll of the sea? I would have the centreboard fixed in a casing which would make a permanent partition.
159. Have you had any experience in trawling? I have.
160. Do you think from your observations along our coast, extending over a period of 15 or 16 years, it would be possible for trawling operations to be successfully carried on in these waters? Trawling has never been tried here yet. Our charts are very inferior. You can take up a chart and where you see it marked sand you will find it is rock. The experiment of trawling has never been carried out here yet; no proper survey has been made. The survey that has been made is very unreliable, as witness in Jervis Bay, where one place marked on the chart as sand is to my knowledge rock.
161. Do you think any harm would result if the Government were to authorise a trawling expedition? I do not, providing there be good practical men in charge of it. I was one of a party who made a trial of a trawl for the Government in the "Dove" about twelve years ago. The experiment proved a failure owing to incompetent men having charge of the trawl.
162. Where did that experiment take place? We were in Jervis Bay and off Cape St. George. We broke the beam to the northward of Cape St. George.
163. If experienced and practical men were placed in charge of a proper trawling expedition do you consider that good results would follow? I do.
164. Do you know of the existence of good trawling grounds all along our coast? I know they do exist at different places on the coast, but no proper survey has been made.
165. Have you had practical experience in trawling in the old country? Yes; I was trawling on the Dogger Bank.
166. What depth of water would there be on the Dogger Bank? From 35 to 70 fathoms. I have trawled outside the Outer Dowson to the further lightship from the Humber.
167. How did you trawl—against, with, or across the current? Whichever way the wind led us. I have seen two or three letters in the newspaper about that recently, and I have laughed to myself about it. The men who wrote those letters could not have had any practical experience or knowledge of the subject.
168. Would you advise that a steam-trawler be used in making experiments on the coast of New South Wales? Yes; a steam-trawler. My brother is the largest steam-trawler on the Tyne.
169. Have you ever noticed any evidence of the deposit of oysters in the deep sea? Yes, in Jervis Bay, and down to the Redhead in Wreck Bight. They are very thick there and of a great size.
170. Have you ever seen any shoals of fish making their way from the south to the northward? I have.
171. What kinds of fish? Tailer, trevally, garfish, and mullet.
172. Have you ever seen any of the herring species? No. The other fish always break, the herring never break. I have seen immense shoals of fish which I believe to be tailer, garfish, mullet, mackarel, and trevally off the Five Islands, off Port Hacking Bight, and off Port Stephens.
173. Did you notice anything bearing a resemblance to oil on the surface of the water after the passage of those fish? No.
174. If the surface of the water had borne an oily appearance after the passage of those shoals of fish, would you consider that to have been an evidence of the existence of the herring species? I would.
175. In regard to the inlet fisheries, do you think there should be a close season? Yes, I do.
176. Would you apply that close season to all the inlet fisheries? I would.
177. For how long? From November to March.
178. Would you proscribe the use of nets altogether in any inlets from November to March? Yes; they should be used only on the outside beaches.
179. Have you ever seen any whales on the coast? Yes; last year they were very thick. I was out two or three times in the "Jenny Lind."
180. What species were they? Most of them were finbacks, sulphur bottoms; some were right whales. I saw one sperm whale in the Shoalhaven Bight.
181. Do you think the whaling industry might be successfully revived? I do, most certainly.
182. I suppose you think it only needs enterprise and the proper equipment of a good vessel or vessels? Yes; that is all that is required to make whaling a great success.
183. From your experience of the fisheries in Great Britain, and with your knowledge of the number of people employed directly and indirectly in connection with them in fish-curing, and so forth, do you think there is room for any development of that character in connection with the fisheries of New South Wales? I do, especially in fish-curing, because if you get a mullet properly tinned it is equal to any American salmon.
184. Would the same remark apply to many other kinds of our fish? Yes; to black bream. A salted or smoked tailer is superior to any English or Scotch haddock that is imported, and yet the tailer is a fish that is much despised out here; it could be made of considerable commercial value. Then there is the teraglin—that is a fish despised out here, but you get one and salt it, and you will find it beats all the ling that ever you came across.
185. *Mr. Thompson.*] You have mentioned several outside fishing grounds—the coastal fishing grounds—would you have any objection to mark those grounds on a chart for the information of the Commission? No; I will do so for the Commission.
186. How long were you trawling on the Dogger Bank? From the time I was 7 years of age for many years.
187. Do you hold any trawling certificates? No; I was only a young fellow at the time.
188. Can you give any information respecting the use of the long line? I would have my line ready, and when I dropped on the fish I could catch them. I had a line with about 500 hooks on it. I have caught three baskets on the long line. You want to be very quick about it; you must not leave the line too long to give the sharks a chance.
189. Have you done any shark-fishing? Yes; I have been out with Mr. Dent fishing off Point Perpendicular, Jervis Bay. We have caught forty and fifty sharks a day; we captured them for their oil and fins.

Capt. R. Arthur. 27 Mar., 1895.

190. Did you find it profitable? Yes, more profitable than the schnapper. I used to get half a crown a gallon for the shark oil and 10d. per lb. for the fins.
191. Where did you get your market for the oil and fins? The tanneries took the oil and the Chinamen took the fins.
192. Did you find a ready sale for those products? Yes, a very ready sale.
193. Is that industry—I allude to the capture of sharks and the preparation of shark oil and the fins—capable of extension? Yes, it is capable of great extension. Then again there are the teeth of the shark. The teeth of the shark called the greynurse have fetched a shilling per dozen; you can sell them to any jewellers. I have been offered by a jeweller 1s. 6d. each for the teeth of a blue pointer shark. These teeth are serrated, and are used for ornamental appendages to watch chains and for other purposes.

THURSDAY, 12 *SEPTEMBER*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

The Hon. R. H. D. WHITE, M.L.C. | L. G. THOMPSON, Esq., J.P.

Mr. John Pollard, fisherman, Sydney, sworn and examined:—

Mr. J. Pollard. 12 Sept., 1895.

194. *President.*] Your name is John Pollard, and you have followed the occupation of a fisherman for some years? Yes.
195. Where do you reside? Thirty-nine, Cumberland-street, Sydney; I was a licensed fisherman for some considerable time, and after that I was engaged as an engineer on the tug-boats.
196. Have you had any experience of well-boats? Yes.
197. What boats are they? I first started with the "Endeavour," a little steamer built by Rock Davis, at Blackwall.
198. What size was that vessel? About 15 tons.
199. What part of the coast did you fish? North and south.
200. Had you any success in her? Oh, yes; we did very well.
201. What fish did you put in the well-boat? Schnapper, nannegai, teraglin, Sergeant Baker, flathead, and rock-cod.
202. Did any of those fish suffer while kept in the well? The only time they would suffer would be by the overflow of current running through the well, when the vessel was going too fast, the effect of which is that the fish are unable to stem the current and are all huddled together at the after end of the well and damage each other.
203. Did you find that the well-boat is suitable for schnapper? Yes; the well-boat is suitable for schnapper, but it depends very much on the depth of water in which the schnapper are caught.
204. When fishing for schnapper to place in your well, did you take any precautions when hauling the fish up from great depths? Yes; first of all if you are fishing in any great depth of water you do not want to haul them up at any great pace, they must be brought up very steadily.
205. Any other precautions? Yes, when you get the fish out of the water if he has swallowed the hook he is no good for the well; if you bring him up alright to the top of the water in eleven cases out of twelve the fish is blown and the wind-bag is drawn up to his mouth; if you prick that bag the wind escapes and the fish is alright.
206. Then you do not make a practice of pricking all fish under the fin? No; the fish that do not bring the bag up we prick near the fin—about an inch from the fin—that is, about an inch from the pectoral fin.
207. Do you find that the schnapper are wild or furious in the well? No; they are very docile fish in the well. The teraglin is a very wild fish.
208. Do you take any precaution with him—he has a large air-bladder? I do not value the teraglin much; I do not care for them.
209. Do they come to the surface at all; do you prick them? Yes; every fish we catch, except flathead, Sergeant Baker, and rock cod—they do not want pricking; you have to prick the others.
210. A fishing-boat, called the "Iron Duke," having a well in her, was lying at the Circular Quay some time ago; was the well in the "Endeavour" constructed on the same principle as the well in the "Iron Duke";—which would be the better well? The one in the "Iron Duke" is the best, but it can be improved upon.
211. In what way? By giving the escape a greater chance of getting away at the after end, and less in the forward end. I would do away with valves altogether, and have only ordinary holes.
212. Would not valves be best—would you not be able to close them as you wished? No; I prefer ordinary holes, so that the water can flow into the well and pass out again, so taking the slime away.
213. By reducing the number of holes in the forward end of the well, would you not prevent the flow of the water? No.
214. If the fish in the well generate slime, how, if you prevent the influx of water, can you do away with it? There should be a greater outflow than intake.
215. Have you used ice on your well-boats for preserving dead fish? Yes.
216. Would it be a good plan to form an ice-chest on each side of the well, so that the fish which die could be cleaned and kept in fit condition for market? An ice-chest is a good thing; but I would have it on the forward and after ends of the well. I would also have planks on the top of the well, and then I would kill some of my fish and bring them into the market in cold weather—they would keep for two days in cold weather—but that plan would not answer in the summer.
217. What size well-boat do you favour? A boat over 30 feet on the keel is no good for men to work; if you get into calm weather, it is very hard work to move her along.
218. How long have you been on the "Iron Duke"? Only a week. I left her because the owner, Morgan, and I did not agree about going south fishing.
219. At what distance apart are the holes in your well; if you were going to construct a new well, at what distance apart would you place the holes? You can put them in rotation from the keel upwards at intervals

Mr. J. Pollard. 12 Sept., 1895.

intervals of 18 inches; say four rows of holes at the after end, and at the forward end in rows of 3 inches, the object being to make the outflow of more capacity than the intake. The well should be built with sloping sides, in order to prevent the fish striking against the sides when the boat is rolling.

220. You favour the construction of an ice-chest fore and aft of the well, instead of on the sides? Yes; by that means more room is given to the men for fishing, for stowage of ballast, and for other general purposes.

221. Do you find that fish which die in the well become rigid like ordinary fish? Yes; they remain very hard, and are really in a better state for keeping than fish caught and killed in the ordinary way. The reason is that fish when caught and thrown down on the deck, knock themselves about so much before dying. Of course it is necessary to watch the well and take out the fish as soon as they begin to show signs of turning up.

222. Do you consider the well-boat system of fishing suitable to New South Wales waters? I do; and if I had the means I would order a boat at once with a good well in her. If any gentleman will start me it will be my heart's delight to get a boat right away, and go in for well-boat fishing.

223. The "Iron Duke" was moored at Prince's Stairs, Circular Quay; did you find the foul water there have any prejudicial effect on the fish? No; that is, if you do not keep them in the foul water for any considerable time. I had a fish in the well at the Circular Quay for one week, and I took that fish away again and brought it back the week after, when it was in perfect condition.

224. Did you find the fish suffered from being kept in still water? They improved; I fancy they got bigger. I am of opinion fish thrive in the well.

225. How do you get rid of the slime the fish generate when the well is in still water? It mostly flows out itself; sometimes I go round and take a dipper, and take the top of the water off, and throw it overboard.

226. Do you advocate the adoption of the well-boat for fishing purposes in New South Wales? I do, most strongly.

227. Have you heard of tanks, or fish-boxes, being used in connection with well-boats? Yes, I believe in that; but according to the fish you have, so the tank or box should be sunk to a certain depth.

228. What number of fish did you have in the well in the "Iron Duke" when you came into Sydney? Over 100.

229. How long were you catching them? Three days looking for them; the fish could be caught in an hour.

230. What size is the well in the "Iron Duke"? About 10 feet long, and 6 feet beam.

231. And those 100 fish did well? Splendidly.

232. How many more would a well of that capacity carry? That well would carry about 300 fish for three or four days; time enough for us to get to market.

233. *Mr. Thompson.*] You know various fishing grounds along the coast? Yes.

234. The Commission are anxious to publish, for public information, a map showing the fishing-grounds; can you help us by marking on a map which will be supplied to you, the position of these grounds, giving us the cross-marks? Yes; I daresay I could.

235. Have you had any experience in trawling on this coast? Yes; about four months and a half. I was out with Dr. Marano and Porchelli, trawling from the steamer "Midget." We trawled the coast south from Broken Bay to Coalcliff.

236. Had you any success with the trawl? Yes; The greatest number of fish was flying gurnet—we caught them in thousands; we also got flathead and sword-fish, but no schnapper. I have never caught schnapper with a line, or in the trawl, on sandy bottoms.

237. I suppose you do not think trawling would be beneficial for the capture of schnapper? No.

238. Would trawling be a good means for capturing other kinds of fish in our waters? Yes; for many other kinds of fish.

239. Will you mark out for us, on the map, the positions of the various fishing-grounds with which you are acquainted? I will be very happy to accompany you in a boat, and obtain and give you the compass bearings of the grounds I know; if you were with me I could show you the marks I use. I could not otherwise explain them to you on shore, or on the map.

THE INLAND FISHERIES.

LAKE GEORGE.

MONDAY, 2 SEPTEMBER, 1895.

[*The Commission met at Lake View House, Lake George, at* 9·30 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

John Gale, Esq., J.P., Queanbeyan, sworn and examined:—

J. Gale, Esq. 2 Sept., 1895.

240. *President.*] Your name is John Gale, and you reside at Queanbeyan, what are you by profession? A journalist.

241. I understand you have an extensive knowledge of the fisheries of Lake George and the Queanbeyan district? Yes; my acquaintance with these fisheries has extended over a very long period.

242. You have been intimately connected with the fisheries of Lake George? Yes.

243. Would you mind prefacing what questions the Commission may put to you, by affording us some particulars with respect to the Lake? I have a short statement with me which I would like to read. It is as follows:—I first saw Lake George in 1854. It was then an extensive and richly grassed pasturage. The entire bed of the present extensive sheet of water from the Turalla Estate, Bungendore, to the lagoon at Winderradeen, 4 miles south of the village of Collector (Kaligda), was clothed in rich verdure, and fed herds of many hundreds of cattle and flocks of sheep, owned by Mr. (afterwards Sir) T. A. Murray, of Winderradeen; Mr. Cooper, of Willeroo; Mr. De Lauret, of Currendooley; Mr. Powell, of Turalla, and others. The high road from Goulburn to Bungendore, Queanbeyan, and Monaro, traversed the bed of the lake. No water was visible, none to be had even in the gullies of the slopes of the ranges forming the western boundary of the lake for the purpose of slaking the traveller's thirst. There

was

J. Gale, Esq. 2 Sept., 1895.

was a small reedy swamp, however, on the eastern side, under the range in the vicinity of Kenny's Point. Yet, we have testimony that within the early decades of the present century this vast plateau of upwards of 20 miles north and south (from Turalla to Winderradeen), and 12 miles or 14 miles east and west, from Geary's Gap to Kenny's Point; indeed, northwards to the site of the present village of Collector, and southwards evidently to Brook's Hill, some 4 miles south of Bungendore (Bungadow), was fathoms under water. I frequently travelled this part of the country from 1854 to 1860, in which year I took up my residence permanently in the town of Queanbeyan, and whilst so travelling was the guest of the late Rev. Robert Cartwright, one of the early colonial chaplains. Mr. Cartwright had settled in Collector where he owned an extensive property, built a church and parsonage, and was then the parish clergyman. It was from this venerable gentleman, then about 80 years of age, I obtained an interesting account of the first discovery of Lake George. Early in the present century, during Governor Macquarie's time, Mr. Cartwright was attached to the Governor's suite, and accompanied the vice-regal party on a visit to Wollogorang, Breadalbane Plains, the most southerly point at that time taken up by the early settlers. The owner of this fine pastoral property was the ancestor of the present owner of Wollogorang, and the Governor and his suite were Mr. Chisholm's guests. It was proposed during his stay there that Governor Macquarie and his party should make an excursion still further southwards with the object of exploring the country. The first day's stage of this excursion was to a point since known as Rose's Lagoon, 4 miles north of Collector. Having camped there for the night, and whilst breakfast was being got ready, and preparations made for the second day's progress, two blackfellows accompanying the party were sent on to explore, with instructions to return and report. This they did, and with some degree of perplexity, reported that they had come to the sea. Surprised at this discovery, the party followed their aboriginal guides, and ascending the rising ground on the north side of the hill (since known as the Windmill Hill, from the fact of a windmill having afterwards been erected thereon) overlooking the site of the present village of Collector, to their surprise saw a boundless sheet of water extending southwards, whose waves were washing the base of the hill on which the party stood with a force equalling that of billows rolling in on an ocean beach. "Where we sit now," said Mr. Cartwright to me, as he was narrating the fact in his own dining-room, "there were fathoms of water, and the bell-turret of my church, had it then stood, would have been submerged far beneath the waves." In a few years, however, after this adventure and discovery, and while this part of the country remained still unsettled, the waters of Lake George (as it was named by Governor Macquarie) suddenly subsided, and in a remarkably short space of time was transformed into a rich pasturage which presently tempted to settlement, and was taken up immediately by the gentlemen I have already named. There have been various theories advanced to account for this phenomenal subsidence of so vast a body of water. The true theory doubtless is, that as Lake George is beyond all question the crater of an extinct volcano, and has all along been subject to earthquake waves at irregular and infrequent periods, one of those convulsions opened a fissure in the bed of the lake through which the vast body of water rapidly disappeared through subterranean channels which are known to exist eastwards to the Shoalhaven Gullies. The lake has four contributory streams which discharge their waters into its basin. From the southern watersheds, Turalla and Deep Creeks; from the easterly watersheds, Taylor's Creek; and from the northern watersheds, Collector Creek. During all the years that intervened between the first disappearancee of this inland sea, and up to 1862, the contributions of these, and of minor and less permanent creeks, failed to furnish the bed of the lake with anything approaching a sheet of water. There was a morass on the eastern shores, in the neighbourhood of Kenny's Point and Willeroo, in which rank rushes grew, where cattle frequented, and through which stockmen rode with the water never reaching beyond the saddle girths. It was after the heavy rains and destructive floods of 1852, so fatal to the original township of Gundagai, that, many years before my acquaintance with Lake George, Mr. Murray owned the estate of Yarralumla on the Queanbeyan River, some 10 miles below Queanbeyan, as well as the fine estate of Winderradeen. Through the latter ran the Collector Creek, the channel terminating, like those of Taylor's Creek, Deep Creek, and Turalla Creek, in an extensive bed of silt on the margin of the lake. Into the Collector Creek Mr. Murray had introduced a consignment of cod and bream or perch which he caught in the Queanbeyan River and forwarded to their destination in hogsheads on a bullock dray. The perch or bream were never afterwards seen, but the cod-fish thrived and increased rapidly, so much so, that, in a few years, the Collector Creek was found to abound with this fine fish, and large numbers were regularly caught by the population who had now settled in the district. In the year 1864, a rainy season, the waters began once more to be retained in the basin of the lake. Previously to this the volumes discharged into the lake as fast disappeared after trending towards the southerly areas under Kenny's Point and Willeroo. This pasturage, as I have already remarked, was a favourite resort of the cattle, whose constant treading, assisted by the decaying vegetable deposit, must have effectually puddled and stopped the crevices through which previously the gathering waters had escaped. The waters gradually spread until, in 1874 or thereabouts (another rainy period) the water area of the lake extended upwards of 20 miles in length by 12 or 14 miles in width at the point of its greatest breadth. In this year the waters had permanently covered the silt beds at the mouth of the various contributory creeks, affording free ingress and egress to fish between the freshwater creeks and the brackish waters of the lake. But no one suspected that all through those years these brackish waters were teeming with Murray cod. It was, nevertheless, a fact, though an unknown one; and the discovery of this fact was made first by settlers in the neighbourhood of Deep Creek, who found that stream teeming with large cod varying from 6 lb. up to 40 lb. in weight. They were so numerous as to be captured with ease by means of the rudest appliances as well as by ordinary fishing gear. Some year or two afterwards the residents of the town of Bungendore discovered large shoals of fish, varying in weight from 6 lb. or 7 lb. to 30 lb. or 40 lb., making their way up the Turalla Creek which flows through the town. Many dray-loads were captured and found a ready sale in the neighbouring towns of Goulburn, Queanbeyan, and Braidwood. Those fish, or the stock from which they were bred, had evidently been carried into the lake in the rainy season ten years before. But their natural liking for pure fresh water led them when opportunity presented to forsake the brackish waters of the lake for the sweeter waters of the creeks for, though, from thenceforward, they were caught in large numbers in all the surrounding creeks, neither by use of net or line, for some years, could a solitary fish be found in the lake itself. A few years later, however, the brackishness of the lake waters diminished, and it was found that fish were present in larger quantities in the lake itself than in the neighbouring creeks, as at the present time.

J. Gale, Esq. 2 Sept., 1895.

244. Now, confining our attention to Lake George, will you name the kinds of fish at present in the lake? There is an indigenous fish in Lake George—a kind of loach I call it. The true loach has barbels, this one has not, and, of course, the crayfish, which is found everywhere in all waters. The species that have been introduced and which are at present in the lake are the Murray cod, and the black bream or perch. I am not sure whether the silver bream was introduced, but no fish, save the cod, seems to have survived here, excepting Asiatic carp or gold-fish, which grows to a considerable size and attains a weight of 3 or 4 lb., but is unsuitable for food.
245. I suppose you have been naturally observant of the habits of the fish in the lake? Yes; I have.
246. When do the cod spawn? They are found heavy in spawn early in the spring-time and up till November and December.
247. Have you noticed the localities in which they spawn? In the creeks and the shoal margins of the lake.
248. Is the spawn separate or attached? Attached.
249. Have you noticed whether the cod school? I do not think they do in the lake, but I know the young cod school in the rivers about the months of February and March; then you will find them in great shoals.
250. What is their natural feed in Lake George? The crayfish and perhaps those indigenous loach. I have found both these as well as fresh water mussels in their maws.
251. What bait is used in their capture? Various kinds of bait—the flesh of bears, of birds, fat mutton, pieces of fish, and crayfish.
252. What methods are employed for the capture of cod in the lake? The ordinary hand-line and a long hand-line, known as a cross-line, some hundreds of yards in length, with snoods attached about 6 feet apart. These lines are laid out in the known resorts of the fish and left there overnight. They are visited occasionally and the fish taken off the various hooks. The locality of the lines is marked by large pieces of wood and corked bottles.
253. Would the lines be made fast at one end? No; excepting that a stone is attached to it. Sometimes it is attached to a stake.
254. Are any other methods used for the capture of the cod in the lake? Netting.
255. Is the netting practised very much? It has been indulged in too much by one or two persons living on the margin of the lake. When I say too much, I mean in season and out of season. This led to the destruction, to some extent, of the fish.
256. Are we to gather from what you say that it is necessary to have a competent man to supervise this fishery? Yes; it is most necessary—it is highly necessary.
257. Are there any other modes by which the fish are caught? Not that I know of.
258. Do those engaged in fishing adopt any means, by establishing paddocks, in order to keep the fish alive? They have large drapery cases sunk in the water and the fish are put inside these cases when caught and kept there until they have a sufficient quantity to take to a distant market.
259. Do the fish endure confinement well? They seem perfectly contented. I believe they would live there some time. These cases are pierced with augur-holes and this lets the water in and out.
260. Have you ever known these fish to be fed while in captivity? No.
261. What was the size of the largest cod taken out of the lake? I caught a cod of 46 lb. weight here. The largest I have heard of, and I have it on reliable authority, was something over 60 lb. in weight.
262. You referred to the waters running into Lake George—do you think any of those creeks serve as spawning and breeding grounds for the fish? I am certain of it, with the exception of Taylor's Creek; I am satisfied that pre-eminently, if not exclusively, Deep Creek, and Turalla Creek are the spawning grounds of the cod.
263. Taking that for granted, would you favour a proposal to permanently close those creeks during the spawning season? Yes; and that should not be too short a time either. It is, perhaps, worth while to remark that all who fish lawfully—that is with the line and for sport—rarely ever catch a fish under 5 lb. in weight.
264. The small fish, then, do not appear to be attracted by the bait? No; I think they have so much natural food that the bait has no attraction for them.
265. It is only the bigger and more voracious fish that bite readily? Yes; that is so.
266. Has a great quantity of cod been taken out of Lake George? Yes; the gross amount must total many hundreds of tons.
267. Where would that fish be distributed? In the neighbouring towns. Lately much of it has been sent to Sydney; before that fish was sent to Goulburn, Queanbeyan, Collector, and Bungendore.
268. Is there a large demand for this fish for the Sydney market? I know that for the last seven years there has been a fair market in Sydney for cod caught in the lake.
269. What price does the cod realise per pound in the Sydney market? I cannot say what it is; but the local price has been rarely below 6d. per pound.
270. I understand Lake George is situate about 5 miles from Bungendore railway station? Yes.
271. So that during the winter months, without any difficulty, if the fish was caught, it could be sent to Sydney? Yes, they could be sent there if the fish could be caught; but I doubt very much if they can be caught in the winter months.
272. Why do you think they could not be caught in the winter? I have made the habits of the cod and other indigenous fish in the rivers in this district a study for many years. I once constructed a pond in my own grounds, as an observatory, and the results of my observations were that during the intense cold of our southern winters the cod embedded itself in the sediment at the bottom of the pond, and in a sense hibernated there. I have frequently disturbed them when the water, being very clear, and the sun shining on it, I found their whereabouts, to see that they only sleepily moved about, and when left alone immediately returned to their beds or winter quarters. I have fished with the rod and line in the Murrumbidgee and Queanbeyan rivers, in all months of the year. In the winter months I would occasionally, during the middle of the day, and when the sun was fairly warm, catch a fish at that season—always a large one. I have for years been accustomed to set hand-lines in the month of August, always with the result that towards the end of that month I caught fish, and those always very large ones. This is my theory, which is the result of my observations: that the cod only moves out from its winter quarters upon the approach of spring, when the temperature of the water rises a little higher, and that the big fish, being the hungrier, are the first to leave their winter quarters.

J. Gale, Esq. 2 Sept., 1895.

273. Referring to the supply during the spring and summer months, are you of opinion that a regular supply could be kept up for the Sydney market? I think, under careful legal provisions, an unlimited yield of marketable fish could be obtained from Lake George and elsewhere.
274. You think that by slight improvements in the method of transit of fish by railway, consignments of cod could be delivered perfectly fresh in Sydney and other towns? Yes; fish could be taken to Sydney as easily as they take dead meat to Sydney at all seasons of the year.
275. Do you think it would be an improvement to gut the fish before it leaves Lake George? A very great improvement indeed. My own method of keeping fish, when I have been fishing in the Murrumbidgee, is to kill it, and put a little salt on the backbone, and the gills, and it keeps well for a day or two; in fact, you can take your fish home sweet after two or three days,
276. How do they send the fish caught in the Lake to Sydney? In boxes, I think.
277. Can you tell us whether the cod spawns once or twice a year? I have heard that they spawn twice in Lake George; and I have also heard, but it is only hearsay, that they only spawn once a year in the Murrumbidgee and Queanbeyan Rivers.
278. You were speaking of the natural food of the cod being crayfish;—are they here in any quantity? Yes; there are too many crayfish to make it a good fishing-ground. The abundance of food the fish find here naturally diminishes the chance of catching them with the hook. They have not to go searching about for food; there is plenty for them here. It is only the voracious fish which takes the bait on the hook.
279. You stated that at one period in the history of this lake the water became so brackish that the fish sought purer water by going up the creeks? The fish could and did live in Lake George, but they naturally preferred sweeter water, and so went up the creeks. It was fully seven years before we could catch fish in the Deep Creek and Turalla Creek.
280. The water at present is suitable in every respect for all kinds of fresh-water fish? Yes.
281. That being so, would there be any difficulty in introducing the brown trout or Loch Leven trout? No; I think no more suitable water exists in all Australia for fish of that kind. I have for many years used all my influence in the direction of inducing the authorities to introduce the big brown trout into this lake; other varieties also might be introduced with success. I have for many years regarded Lake George as being a source of untold national wealth, if only it were properly developed.
282. You think the capabilities of the lake, as a fishery, are great; and further. that they could be increased, and a profitable industry could be established here? Yes; I do.
283. As to the private ownership of land surrounding the lake, is it a fact that in consequence of private ownership the public are not able to get access to the water except by trespassing? It is so, unfortunately; but something should be done to remedy such a state of things.
284. Would you advocate the dedication of a reserved road right round the foreshores of the lake, and would you also apply the same principle to the rivers of the Colony, so as to give people access to the water? I should like to see an absolute resumption of all water frontages. I think some legislation should be effected which would give persons the right of access to all water frontages, within a fixed limit, under certain well-defined conditions.
285. Do you know of any other destructive agencies, besides those people who use nets out of season? Yes; there are formidable natural agencies; there are two or three varieties of the cormorant, commonly known as the shag. Then there are the pelican, and certain waders, such as the red-bill and coot, all of which seem to feed upon fish or the ova of fishes, and they frequent the spawning-beds seemingly for that purpose. Of course there is a solitary fish-hawk to be seen here and there, hovering over the surface of the lake.
286. Do you think it inadvisable to protect the birds you have named? I would rather see a premium offered for their heads, and it would be in the interest of the fisheries to destroy these fish-eating birds.
287. Have you any acquaintance with the waters of Lake Bathurst? Only a little.
288. Has any attempt ever been made to introduce fish there? Yes; both from Lake George and Collector Creek.
289. Have they increased there? No; I do not think they have been a success. I think I should say here, as one who has made experiments in that direction, I have come to the conclusion that the eastern waters of the southern districts are not suitable to the cod. I gather that from the results of experiments that have been made in the introduction of this fish into these waters. For example, two or three attempts have been made to stock the Wollondilly and the Mulwarree Ponds, at Goulburn, and shortly afterwards an individual cod of large dimensions was caught here and there, seemingly the grown originals, but no young fish or any fish at all have ever been seen since. I have had a hand in similar experiments in transporting fish—cod and perch—to the Shoalhaven River and the Little River, in the Braidwood district, where the people once offered a premium of £50 to anyone who should successfully introduce the cod into that stream. Two or three consignments were successfully placed there, but nothing was afterwards heard of them. I have for many years taken an active interest in the introduction of all kinds of fishes.
290. Do you know whether the eel will survive and breed in the waters of the western watershed? They are known to be exceedingly common on the eastern watersheds. I regard Lake George as being neither on the eastern or western watershed; but there are no eels here. I do not know that they have ever been introduced. I did, however, make an experiment some years ago in introducing eels into the tributaries of the Murrumbidgee at Queanbeyan, the Molonglo, and the Queanbeyan. I placed them in a nursery and watched for their increase; but I never saw it, though I frequently saw the original eels. Gradually they disappeared, and for years past I have seen nothing of them.
291. Do you consider the waters of Lake Bathurst on the eastern watershed? Yes; it is probable there are eels there. It is contiguous to the Mulwarree.
292. Do you think, if it were not thought advisable to introduce indigenous fish into those waters, brown trout might be successfully placed in Lake Bathurst? Yes; I am satisfied the lake trout would thrive in Lake Bathurst as well as in Lake George.
293. As to the introduction of fish not indigenous to the waters of the Colony, have you conducted any experiments in depositing fish at different places? Yes; in 1887 I accompanied a neighbour, Mr. Fred Campbell, to Ballarat. We took with us all the appliances necessary for bringing back a stock of the several kinds of trout and other varieties of fish which are reared by the Acclimatisation Society at Ballarat. We brought safely to Queanbeyan nearly 300 yearling trout, about fifty English perch, and a like number of Russian carp. The trout were successfully deposited in seven rivers, all tributaries of the

J. Gale, Esq.
2 Sept., 1895.

the Murrumbidgee, and in the main river itself. They were placed in what we regard as the finest possible trout stream in Australia, the Cotter River, a western tributary of the Murrumbidgee. We placed upwards of sixty of those trout in that stream. We deposited thirty-six in the Queanbeyan River, thirty-six in the Molonglo, and similar numbers in the following rivers:—The Bibbenluke, a tributary of the Snowy River; the Little River, in the Braidwood district; the Molonglo; the Yass River, at or near its sources, which are close to Queanbeyan, and the Naas River.

294. What have been the results of your experiments in that direction? In some respects disappointing, so far as regards the minor streams; fairly successful as regards the Queanbeyan River, speaking of three or four years ago; pre-eminently successful as regards the Bibbenluke, which is a tributary of the Snowy, a river flowing eastwards, and the Cotter, first named. I have seen a few trout of various ages that have been taken from the Queanbeyan and Molonglo Rivers since.

295. What age would they be? It is hard to say. I am not satisfied about their growth. They seem to grow in proportion as they have an abundance of feed. I may state that a Treasury official found one stranded on the bank of the Molonglo which weighed 5½ lb. and measured 25½ inches in length. The fish was in very poor condition as it was immediately after spawning-time. That fish must have attained its growth from 2 or 3 inches to its then dimensions in so short a time as eighteen months or two years. In fact, as proof positive that the fish have bred, several small trout, only a few inches in length, were brought into Queanbeyan, having been caught by anglers, and one more recently still 3 lb. in weight which must have been the progeny of the original fish. I have angled for them with the best of tackle, being an old trout fisherman, but I never succeeded in hooking one. I once unquestionably saw a trout make a leap from the water where I was fishing. That was within a mile of the town of Queanbeyan. With regard to the Cotter, a river which furnishes another instance of the permanent success of their introduction, I have had statements from reliable authorities of the presence there of shoals of trout fry. For instance, during one of my visits in connection with my coronial duties, I had occasion to put up at a squatter's residence in the neighbourhood of the Cotter. During my stay, the lady of the house informed me that her son had told her he had seen in one of the streams flowing into the Cotter, a number of little fish, which were, to use his own words "a new variety, and prettily spotted." The lady of the house informed me that she knew the fish in question to be trout, although her son did not possess that knowledge, he being a native of the Colony and she coming from Scotland. This incident occurred about five or six years ago. That would be about two years after we placed the yearling trout in the Cotter. I have also been informed that a party consisting of Mr. King, Police Magistrate and Mining Warden, Mr. Johnson, railway contractor, and Mr. McAllister of Bungendore, visited a copper lode known to exist at the junction of the Cotter with the Murrumbidgee. The two gentlemen first named were first over the ford, and had disturbed the water, which is as cold as ice, and clear as crystal, and they had evidently frightened some fish, which Mr. McAllister, following them, saw passing up the stream. He describes them—I use his own words—as "being about five in number, 15 or 18 inches in length, olive-green on the back, and they seemed to have golden-yellow flanks, and were spotted on the sides. He had never seen any fish like them. They were neither cod or perch, and he thought they must be trout." These instances, to my mind, are the strongest possible evidence of the existence of trout in numbers in the Cotter, and prove their successful introduction. I may also state that I have received satisfactory and reliable evidence that a trout 3 lb. in weight was taken at Wantabadgery, on the Murrumbidgee, 160 miles below the Cotter River.

296. What are the fish indigenous to the rivers? The indigenous fish in the Murrumbidgee and its tributaries are different in the various regions through which the river flows. Low down the Murrumbidgee, in the level country, from Wagga Wagga to Hay, there is a very fine fish known as the silver bream. That fish is rarely seen in the Upper Murrumbidgee. There is a fish in the Murrumbidgee, which I caught at Wantabadgery, entirely new to me. It is a loose scaled fish; the scales come off the moment you touch it. It is deeper in its chest structure but otherwise resembles the English dace. In the Upper Murrumbidgee I once caught a strange fish. Its flesh was pink like that of a trout or salmon; it was in shape like that of a grayling, except that it had not the adipose fin. It was pure silver in colour everywhere, and the scales, as in the case of the fish I mentioned as having caught at Wantabadgery, came off the moment I touched it. This fish was about 1½ lb. in weight, and took the bait—a worm—greedily. The fish in the Upper Murrumbidgee and its tributaries are the Murray cod, black-bream, and a light coloured bream or perch, which is erroneously called the silver bream, but is not that fish.

297. What about the minnows you catch? The indigenous fish in the Cotter, and Goodradigbee River are what is known as the mountain trout, which goes in shoals. It is a sweet edible fish, weighing about 4 or 5 ounces, the biggest of them being about 7 inches in length. There is also a small fish in all the mountain streams in the county of Cowley, and also here in the tributaries of the Upper Queanbeyan River, in the county of Murray, a small fish, a true minnow, very much like the English minnow. It never attains ½ ounce in weight, and not more than 1½ or 2 inches in length. Of course there are crustacea in all the waters.

298. When introducing the trout from Ballarat you took them as yearlings? Yes.

299. They were liberated at a stage in their growth when they could feed and protect themselves? Yes; by their activity and natural vigour.

300. Would you advocate the placing of fish in any waters at a stage of growth earlier than that? No; it has been a failure wherever tried, to my own personal knowledge.

301. Do you know what fry has been introduced into the different water? Yes; as an aid to the Fisheries Commissioners, I assisted in placing fry in the different streams.

302. Were those experiments attended with success? No; so far as I have observed, and I have observed carefully, patiently, and earnestly, it seems to have been an utter failure.

303. So that really the trout at present abounding in the rivers you have named, are fish reproduced from those introduced years ago by Mr. Campbell and yourself? They are undoubtedly the progeny of the fish we brought over.

304. Taking all the conditions and characteristics of the county of Murray into consideration, do you think it would be judicious to establish a fish hatchery and nursery here? Yes, I do, and have long been of that opinion, and had I capital I would employ it in such an enterprise.

305. Can you say whether the climate of this county is anything like the Tasmanian climate? Yes, it is; and I say there is no climate in Australia, excepting that of Ballarat, in which a fish hatchery and nursery could be more successfully established for introducing and raising the several varieties of fish than in that of the Queanbeyan and Monaro districts.

J. Gale, Esq. 2 Sept., 1895.

306. Do you think, if a hatchery and nursery were established here, the several waters in the district could be stocked with food fishes? Yes; and I also know from my own observations that there are natural formations and places here that could be cheaply and easily converted into nurseries. A nursery should be safeguarded against floods; there are many places where pure, cold, sweet water could be obtained, water which would constantly run and never be disturbed by floods.

307. Speaking of indigenous fish, have you ever seen the catfish here? No; never in the regions of the Upper Murrumbidgee. I have heard of catfish being found, and I know them to be in the Yeo Yeo Creek, a tributary to Lake Cowal.

308. Do you think, if the tributaries of the Murrumbidgee were well stocked, and the fish put in at a proper age, that eventually they would be found to extend into the main river? Yes; our object in putting fish into the tributaries of the Upper Murrumbidgee was that we were sure they would find their way into the main river.

309. From your knowledge, gained in connection with experiments in fish propagation, do you think it would be more successful to have a hatchery established in a climate, and under such natural conditions as you have here, or would it be better to have it established in the county of Cumberland? The only objection to the establishment of a hatchery and nursery up here is the distance from Sydney; but as a set off to that you have the advantage of climate, and now that our railway is through, it is only a night's travel for anyone to come here and inspect. The county of Cumberland, I have no hesitation in saying, does not possess the climate suitable to the successful hatching and rearing of the salmonidæ. I have heard the Commissioners are establishing a hatchery and ponds at Prospect Reservoir; this is a mistake, from my point of view. From my own experience, as a trout and salmon fisherman—and I have been fishing since my early boyhood—I am satisfied that the climatic conditions at Prospect are against the successful rearing of healthy fish. It seems to me that the fish reared in the warm waters at Prospect, would deteriorate in their flavour, and would be weakened to a considerable extent when transferred to mountain torrents. They would not have the vigorous constitution necessary for them to stand the change.

310. Have you ever noticed any indications of disease in any of the fish in these regions? I have, recently.

311. Would that be *saprolegnia ferax*? It is undoubtedly the *saprolegnia ferax*. Since this discovery I have read up the authorities on the matter, in addition to the information I got from the Fisheries Commission, which was to the effect that the disease was *saprolegnia ferax*—that was all I got from them. I have found out, from my own observations, that it attacks the fish, and is known by white spots upon the surface of the skin which eat into the tissues of the fish, and which, in its more advanced stages, present the appearance of a thick mucous adhering to the fins, gills, and mouth.

312. After having communicated with the Fisheries Department, did you seek further information from them? Not from them; several letters passed between us. I reported fresh developments I had discovered; but they gave me no further information respecting the disease. I asked particularly for information regarding the origin and cause of the disease, but they never furnished me with the information I sought. By research, however, I discovered—I think it was from Blackie's Encyclopedia—that *saprolegnia ferax*, during late years, has been very prevalent in the British trout and salmon rivers, and has proved very destructive to the fish. I also ascertained that aquatic plants, as well as fishes, were subject to it. Sergeant Nelson, of Queanbeyan, has reported to me that he has discovered in the waters of the Queanbeyan River, which is a mountain stream, and has no stagnant water in it, some decaying vegetable matter rising from the bottoms of the pools, carried forward by the stream, and possibly this resulted from the *saprolegnia ferax* having attacked the aquatic plants in the river. I intend to closely examine the aquatic plants in the Queanbeyan, with the object of discovering any further evidence of *saprolegnia ferax*.

313. Do you know whether it has attacked any aquatic birds? Within the past few days I have discovered upon the webbed feet of the black swan of Lake George, white spots and excrescences, having all the appearance of *saprolegnia ferax*.

314. Do you know of any cure for this disease; would immersion in salt water effect a cure? I am informed that fishes affected by this disease are speedily restored to health when brought into contact with salt water.

315. *Mr. Thompson.*] Referring to the spawn of the Murray cod, is it extruded attached? Yes.

316. In the shape of a ribbon? It looks more like a cord or thread than a ribbon.

317. Do you find it attached to anything? Yes; I have found it attached to logs, weeds, grass, and other things.

318. Do you favour the theory that the cod makes furrows or redds like the salmon? No; I am certain it does not.

319. How long would the fry of the cod remain in the creeks? I cannot speak with regard to these creeks; but in the Murrumbidgee and its tributaries the fry and the young fish grow very rapidly, and go in shoals. They are gregarious until they attain about ½ a pound in weight. They then become more solitary in their habits; in the fall of the year, from February to April, anyone who is interested in fish life would be grieved at the numbers of fish that are caught by the use of very small hooks.

320. You tell us that the fish begin to spawn very early in the spring, and continue until November and December? Yes, in November and December the fish are sick as the result of spawning. When you do catch an odd one it is in poor condition.

321. How long does the spawn take to hatch? I cannot say; it cannot take long, because at Christmas time the fish get strong appetites again, and you begin to get great numbers of very small fish, perch and cod, and so on, until the winter sets in.

322. Would you favour the permanent closing of the creeks emptying into Lake George? Yes, I would; but as regards the other rivers sufficient protection could be obtained by regulating the size of the hook.

323. Is the absence of the bream and the blackfish from the lake to be accounted for by the voracity of the cod? No; I think there must be some natural cause, the conditions are against it, otherwise how is it the hatched cod in the Murrumbidgee did not destroy the perch there. I have seen the cod and perch fraternising with each other in that river.

324. Supposing steps were taken to stock the inland rivers of the Colony with suitable fish to such an extent that angling might be carried on at proper seasons, are you of opinion that amateurs would object

J. Gale, Esq. 2 Sept., 1895.

object to pay a licence for the privilege afforded them, the fees collected for the license being devoted to the expenses of the Department having charge of the fisheries? I think it should be made compulsory on the part of all anglers to take out an annual license.
325. Do you know anything of the system of netting pursued in the Murrumbidgee? There is no netting practically in the Upper Murrumbidgee—rocks render it impracticable.
326. But do they not use nets in the Murrumbidgee? You can rarely use a net without getting it snagged.
327. Do you know the Murrumbidgee at Tumut; can nets be used in the Tumut River? Yes, nets can be employed there.
328. Have you ever known them to be employed at the junction of the Tumut, the Jugiong, and the Tarcutta Creeks, with the Murrumbidgee? I have heard it is a common practice.
329. Do you think it a desirable practice? It is most objectionable.
330. Would you recommend the closure of those creeks against net-fishing from the junctions upwards? Yes; I would.
331. Do you consider that the employment of drum-nets is destructive? Yes, very destructive; I approve only of a net with a large mesh to catch a large fish.
332. What is the minimum mesh which you think should be used in the rivers? A 5 or 6 in. mesh, that would capture a ten-pound cod, and certainly not smaller than an eight-pound cod.
333. What should be the minimum size for a cod which anglers should be allowed to take? Half-a-pound.

Mr. William Harry Glover, Meteorological Observer, Lake George, sworn and examined:—

Mr. W. H. Glover. 2 Sept., 1895.

334. *President.*] How long have you resided at Lake George? Ever since October, 1884.
335. During the time you have been here, have you had a good opportunity of judging of the capabilities of the fishery? Yes; I have.
336. Was there plenty of fish in the lake in 1884? Yes.
337. The fishery was a very prolific one at that time? Yes; it was.
338. Has it maintained its standard? To the best of my belief it has.
339. What kinds of fish are there in the lake at the present time? Murray cod, carp, and a small fish called the gudgeon.
340. You have crustacea as well? Yes.
341. What, in your opinion, forms the natural food of the cod in the lake? Before the introduction of the carp to the lake they lived upon little winged insects and also upon the horse-stinger and the crayfish.
342. Are there any fresh water mussels here? Yes, there are.
343. How long is it since the carp were introduced? About seven years ago.
344. Have they multiplied at all? Wonderfully.
345. Were they introduced for the purpose of providing food for the cod? No.
346. Do you look upon the carp as a fish of commercial value as compared with the cod? Yes, I do.
347. Is it as nutritious a fish? It is a fish of splendid flavour.
348. What weight does it attain in the lake? The largest I have seen in Lake George would weigh about 4 lb. It was 15 inches long and about 2 inches across the shoulder.
349. Are they caught with a hook and line? They can be.
350. What bait is used for their capture? Dough. I have only known of two being caught—I caught them myself with a hook and line.
351. Have any been taken in the nets? No; the nets used are of too large a mesh.
352. When do the carp spawn? It is difficult to say exactly; but I take it to be nearly all the summer months.
353. Once or twice a year? That is more than I can say.
354. Have you observed the spawn at times? Yes.
355. Was it attached or separate? Separate.
356. Referring to the habits of the cod in the lake, when do they spawn? Nearly all the summer months.
357. Do they spawn once or twice a year? I cannot say.
358. Have you ever observed the spawn; is it separate or attached? It is separate.
359. Where is it usually deposited? I have seen places on the eastern side of the lake, in about 3 feet of water, where there have been ridges or grooves made apparently by the fish, and I believe spawn has been deposited there.
360. Do the cod seek the upper reaches of the creeks whose waters empty into the lakes? They used to about four years ago, but not so much lately.
361. How is that? Chiefly on account of the lake having risen, thus giving them more shoal water for spawning grounds.
362. I suppose a certain proportion of the fish, at any rate, breed in the creeks flowing into the lake? I really do not think they do, it is too muddy; they pick the sand.
363. In your opinion would any good result be achieved by closing the creeks permanently? Yes; it would be a good thing in one way; the fish go up the creeks a good deal, but not to spawn; they travel up and down a good deal.
364. Do you think the fry which may be hatched in the shallow portions of the lake seek the more secluded spots in the creeks? I think until they attain a fair size they keep in the deep water to avoid their natural enemies, the cormorants.
365. You have plenty of cormorants in the lake? They are here in great numbers.
366. I suppose they destroy large quantities of fry? A wonderful amount; chiefly the fry of the carp.
367. Would you advocate the offering of a reward for destroying the cormorants? Yes; I would strongly advise that a reward be offered for the destruction of cormorants, shags, and pelicans.
368. What would be a fair price, per head, to offer for the destruction of those birds? For cormorants, sixpence per head, and the same for pelicans; nobody would shoot them for a less amount, for the reason that they would not be shot for bait, as they are not very good bait. If sixpence were offered they would be shot for the reward alone.
369. Have there been any other destructive agencies at work besides the natural enemies of the fish? Not since I have been here.

Mr. W. H. Glover. 2 Sept., 1895.

370. Have you ever known dynamite torpedoes to be exploded, for the purpose of catching the fish? No, not in the lake.
371. Has the process of meshing been carried out here to capture fish? Yes, by inexperienced persons.
372. Do you mean by that, that the methods used for taking the fish were of a primitive character? That is what I mean.
373. What did they use? A mesh-net, made in a very heavy style, and unsuitable for meshing, the top and bottom lines being of very thick cord.
374. What was the mesh? Four inches square.
375. Do you approve of that mesh for catching fish in the lake, or would you rather see a larger mesh used? I do not believe in the mesh-net at all for this place.
376. What methods are best for the capture of the cod? A trawl that would go down into the mud, and catch the fish in the winter time, and an ordinary trawl in the summer time.
377. You would use a different trawl in the winter to that employed in the summer? Yes.
378. Why? I have tried the summer trawl in the winter months and could not get any fish. What I mean by the summer trawl is the ordinary beam trawl.
379. And the winter trawl you refer to? I have an idea of a trawl that would go down into the soft mud that is held in solution, and which would be the means of disturbing the fish lying dormant in this mud, and so capture them.
380. Is it one of the habits of the Murray cod in the lake that it covers itself during the winter? Yes; I have held that opinion for years.
381. That consequently would be the reason they do not bite at all in the winter? Yes.
382. Do you think the temperature of the water has anything to do with their not biting? Certainly.
383. Can you give us an idea of what the temperature of the water has been for a few years? It is about 40° Fah. in the winter time. The average summer temperature is about 65°; 72° is the temperature at which the cod bite best—that is the maximum summer temperature. At 50° the fish usually start to bite.
384. When do you think the temperature of the water in the lake will rise to 50°? It is very irregular. Sometimes we get 50° in the middle of September—sometimes earlier or later, just according to the prevailing winds.
385. Have there been any indications of a lowering of the water in the lake? During the eleven years I have been resident here I have noticed a rise in the lake of 8 inches. It is now 8 inches higher than it was eleven years ago.
386. What is the greatest depth of water in the lake? About 13 feet at the present time.
387. And the average depth? About 7 feet. This is explained by the fact that the edges of the lake for miles are very shallow.
388. Have you ever noticed any indication of a tide in the lake? I have. On the 15th March, 1885, ⅛ an inch of tide could be traced.
389. Was that under favourable weather conditions? Yes; very favourable.
390. Can you account for that tide at all? The observations have not been carried on sufficiently long to enable me to do so.
391. Have you any idea as to the origin of the lake? I believe it was a deep chasm at one time which has gradually silted up. I have one proof of the amount of silt that goes into it. I was caught in a heavy storm in my yacht one day and had to throw overboard half a ton of timber—ironbark. I just had time to secure the logs together before the storm came on. Three days afterwards I went and lifted the logs and there was one inch of silt on top of them.
392. Do you favour the idea that this chasm was caused by volcanic disturbances? I do.
393. What are the dimensions of the lake at present? It is about 18 miles in extent from north to south. Its greatest breadth is 6¼ miles.
394. Have you seen a greater body of water in Lake George than at present? Yes; I have seen the level of the lake 18 inches higher than it now is.
395. I notice the water in the lake is discoloured—can you account for that? Yes; it is owing to the heavy winds raging last week.
396. If the water is discoloured during the fishing season, do the fish bite as well as when it is clear? Better if it is rather discoloured.
397. Have you ever had the water of the Lake analysed? Yes; Mr. Dixon of the Technical College Laboratory, Sydney, made an analysis of the water. It is as follows:—

My dear Mr. Russell, Technical College Laboratory, Sydney, 2 May, 1885.

The water from Lake George contains 187·5 grains per gallon of solid matter dried at 212° F. The residue has a strongly alkaline reaction, effervesces with acid, blackens much on ignition, but does not show the presence of nitrates in doing so. The metals present are aluminium, calcium, and magnesium; the acids, chlorine, carbonic acid, sulphuric acid, and phosphoric acid,—the last two in small quantity. The salts are probably arranged as chloride of sodium, sulphate of sodium, phosphate of sodium, carbonate of sodium, and carbonates of calcium and magnesium. The purgative properties of the water are probably due to the salts as a whole, and especially the carbonate of magnesium. It should be borne in mind, however, that waters containing much organic matter frequently have a purgative effect.

P.S.—Zinc and copper are entirely absent. W. A. DIXON.

398. Was not another analysis of the water made at an earlier date? It was water from the Currawang Copper-mines.
399. What was the object in obtaining an analysis of the water? It was because several fish had been found dead, and it was asserted that it was owing to the deleterious matter draining into Lake George from the copper-mine, where active operations were being carried on. Mr. Russell, in an address given in 1885, said:—

Lake George is called a fresh-water lake, and some have even gone so far as to propose to use it as a reservoir for the supply of towns. When there I ascertained that no one could use the water on account of its purgative properties, one glassful being quite enough to satisfy those who made use of it; and it is there said that the water running into the lake from the Currawang copper mine had poisoned all the fish. This is not literally true for there are still fish in the lake; but very many were killed some years since, presumably by the cause mentioned. I obtained some of the water, and am indebted to Mr. Dixon for the following interesting information as to what the water contains. It is quite evident that with 187·5 grains of mineral matter per gallon, the water cannot be used for domestic purposes, and from the fact that this matter is constantly being added to it cannot improve, unless it were possible to withdraw large quantities of the water, and supply its place with rain-water; but during by far the greater number of years during which the lake has been known, viz., sixty-four years, the supply of rain-water going into it annually has not been equal to the evaporation, and there is no other outlet. After the great flood of 1870 the lake, during the last fourteen years, has gradually decreased by nearly a foot per annum, and similar conditions existed before; and it is therfore obvious that it would not be possible to wash out the salts with rain-water and artificial drainage except in wet years—perhaps once in twenty years. Extract

Mr. W. H. Glover. 2 Sept., 1895.

Extract, Mining Department's Report, 1880 :—"Three samples of water from the Currawang Copper-mines were sent for analysis, with special reference to their poisonous action on the fish in Lake George, and were therefore only examined with regard to the metals in solution. The metals were present as sulphates, and are stated below :—Water from the creek contains : Sulphate of copper, 1·12 grains per gallon ; sulphate of zinc, 16·78 grains per gallon ; sulphate of iron, 0·43 grains per gallon. Water from the working shaft : Sulphate of copper, 17·67 grains per gallon ; sulphate of zinc, 53·54 grains per gallon ; sulphate of iron, 1·42 grains per gallon. Water from the old shaft : Sulphate of copper, 6·42 grains per gallon sulphate of zinc, 7·20 grains per gallon ; sulphate of iron, 0·98 grains per gallon." This water would necessarily be poisonou to fish, and, flowing into a lake without outlet, would ultimately render the whole water poisonous.

400. How long did they carry on operations at the mine? I cannot say.
401. They are not working now? Not for the last twelve years.
402. Had they carried on operations the whole of the fish in the lake might easily have been poisoned? Yes, certainly.
403. Have you had any large catches of fish in the lake? I once saw a very large haul.
404. How were the fish captured—by the net? Three nets at the head of Deep Creek. It is chiefly on account of this haul that I strongly recommend the closing of the creeks.
405. Was that during the open season? September ; the fishing season had just started.
406. What was done with the fish? Three nets were set, and about sixty cod were taken. They were distributed in various places in the district. The average weight of the fish would be about 12 lb.
407. Do many professional fishermen come here in the season? No professional fishermen. One professional fisherman used to make his living here.
408. Are there any public reserves round the lake, so that the public may gain access to its shores? We are very badly off indeed in that respect.
409. Would it be a national benefit to have a proper road made right round the lake? Certainly it would ; it would be one of the greatest benefits the Government could confer upon the public.
410. Do you think a few professional fishermen, with suitable appliances, now that the railway is so close at hand, could keep up a supply of fish for the Sydney market? Yes ; but I reckon their plant would prove expensive.
411. What are the methods mostly employed for the capture of fish here? Amateurs only are fishing now, and they use cross-lines and a roughly-constructed net.
412. What do they bait the cross-lines with? The fishermen have usually baited the lines with the inside of a swan, frogs, crayfish, wood grubs, and beef marrow. I have used fish bait itself. Others have not tried this much. I have found the codfish bait very successful, and it takes less trouble than the other in attending to the lines, and will remain good for a couple of days and nights.
413. Will the cod take the stale bait? They will at night, if it is of a white colour.
414. You spoke of the plant being extensive ; what plant would be required? A steam launch and a set of trawls.
415. Do you mean the English beam-trawl? No ; a trawl 10 feet on the beam, with a bag rising up about 4 feet, floated by corks.
416. You would have the beam on the bottom? Yes, right on the bottom. This trawl could only be worked in some parts of the lake. That is on account of some portions of it being a hard bottom, and other portions having this mud in solution where it could not be worked.
417. Would that be what might be termed the summer trawl which you are now referring to? Yes.
418. Will you describe the winter trawl? It is an idea I have to construct one of an iron rod of about 3 ft. 6 in. long with a light wire, hoop-shaped, suspended from the top of it, the net part of it to be formed of light copper-wire. The reason for this is, that the mud would be able to go through the wire—it would cut its way through well. This trawl will be worked in the soft mud, and so catch the fish at the bottom. The mesh to be as large a size as possible to take about a 12 lb. fish.
419. What size mesh would catch an 8 lb. fish? Four inches on the square ; about 5 inches on the diagonal. The cod is rather a hard fish to mesh.
420. Why? On account of its shape. In a mesh-net, with one size of mesh right through it, you are very liable to catch only one size of cod.
421. You can only mesh for the particular size of fish you want to catch? That is so.
422. Do you know what a trammel-net is? Yes.
423. Would that be suitable for use in Lake George? I do not think so.
424. Have you ever tested the waters of Lake Bathurst to see whether they were suitable for fish propagation? No. I have a reason for the fish dying that were put there.
425. What is it? It was owing to the long weeds in the lake ; the fish got meshed in them.
426. You think it was not due to the presence of poisonous constituents in the water? I think not.
427. Do you think it possible that fish might be successfully introduced into that lake? Certainly.
428. Do you think the brown trout would do in Lake George? I believe they would do well here ; there are so many different kinds of bottoms in the lake—sand and rock, and shoal patches.
429. Do you think it is necessary that there should be proper supervision established over this fishery in order to protect the lake from depredators who might be inclined to use all sorts of methods for the capture of fish? Yes, I do. That would stop these large hauls that have taken place.
430. Do you think, if proper regulations were framed for the development of this fishery, that a constant and regular supply of fish could be forwarded to the Sydney market? Certainly ; with practical fishermen and suitable boats and appliances, I believe there is a fortune in it.
431. Can you preserve the cod alive in paddocks? Yes, for months.
432. Would it be necessary to feed them during the time? No.
433. What area of water would form a convenient size for a paddock? A paddock from 50 to 80 yards square would answer to keep them in for two months. Sapling piles should be used to permit of the free ingress and egress of water. Wire would not suit at all ; the fish would wear themselves right away against it.
434. Do you think the cod when caught could be travelled from all parts of the lake in well-boats to the paddock or paddocks? Yes.
435. Would it be a good idea to have the fish cleaned and gutted before sending them to market? Yes ; especially in the summer time.
436. Have you ever known fish caught in the lake to be cured? Yes, they cure beautifully ; with a very little smoking they turn a beautiful golden colour.

Mr. W. H. Glover. 2 Sept., 1895.

437. Would not the oil in the cod be prejudicial to smoking? No, not if the solid fat is removed. A 30-lb. cod has 8 lb. of solid fat.
438. Could that fat be rendered down so as to put it to any other use? I have it from a doctor who examined it that it is equally as good as cod liver oil. He said the cod oil would be far more wholesome than much of the cod liver oil put on the market. It would also be of value for lubricating machinery. At the time the fish died in the lake some years ago, a little trade was done in fish oil. Several barrels were sent away; it realised 2s. 6d. per gallon.
439. Do you think, even if professional fishermen were not allowed to ply their vocation here, it would be a good thing to have the lake set apart as a national fishing or health resort? I think professionals should be allowed to come here, and the lake should form a national pleasure and fishing resort.
440. Do you think if proper supervision were established, and this fishery became prolific, that amateurs would offer any objection to pay a license fee, say, 2s. 6d. or 5s. to fish? That would be a good idea.
441. Is there anything else you would like to add to supplement your evidence? On the north, south, and eastern shores of the lake there are three reserves, two of which can be reached by boat, viz., one at Taylor's Creek, midway on the eastern shore, with a frontage of about half a mile; very few know of this reserve. No. 2 is at Kenney's Point, which is pegged out as a village reserve; this one is well known to the public. No. 3 is up Deep Creek, but the lake is not quite high enough for it to be reached by boat at the present time. Taylor's Creek and Kenney's Point reserves are the only places on the three sides mentioned at which the public can land without trespassing.
442. Is there no access by road between the reserves you have mentioned without trespassing? Only by a very roundabout way.

Mr. Frederick Nelson, Sergeant of Police, Queanbeyan, sworn and examined:—

Mr. F. Nelson. 2 Sept., 1895.

443. *President.*] Your name is Frederick Nelson, and you are a sergeant of police, stationed at Queanbeyan? Yes.
444. How long have you resided at Queanbeyan? Three and a half years.
445. Before going to Queanbeyan you were in charge of the Bungendore district? Yes; for eleven years and a half.
446. While you were located at Bungendore you had good opportunity of judging of the capabilities of the Lake George Fishery, and I understand you also occupied the position of Inspector of Fisheries there? Yes, that is so.
447. Did the Department of Fisheries give you any salary for your services? £20 per annum.
448. Who was appointed as your successor? No one.
449. So that practically, during the past three and a half years, the fisheries have been left unsupervised? Yes.
450. What kinds of fish are there in the lake? Cod, or Murray cod, and carp.
451. Can you tell us what time of the year the cod spawn? I have found fish containing spawn all the year round; but I believe they spawn from about the 1st September up to March, sometimes later, according to the season. During that period I have found the spawn almost protruding; after the month of September up to March.
452. Where do they spawn? I have seen spawn on the sandy shores of the lake, and also on the sandy shores of the creeks; but whether deposited by the fish, or washed there by the water, I am not able to say.
453. Do you think the creeks are places in which the fish are likely to deposit their ova? I do; I have frequently found the fish very numerous in the creeks during the spawning season.
454. Do you think they come there for the purpose of depositing spawn? I do.
455. Would you advise that those creeks which appear to be breeding-grounds be closed against fishing operations? Yes; at certain times in the year.
456. Have you noticed the ova of the cod, is it separate or attached? Separate.
457. Where do the fry go to after they are hatched? Into the creeks, and the heads of the streams.
458. So that in the interests of the fry you think it advisable to make a closure of these creeks? I think so; the creeks should be protected.
459. What is the largest fish you have known taken out of Lake George? From 48 to 54 lbs. weight.
460. What is the general run of the fish; I mean, what is their usual weight? The general run of the fish is about 8 lbs. to 18 lbs.
461. Have you seen quantities of fish taken from the lake? I have; I have known as much as 800 lbs. of fish taken in one month by cross-lines.
462. Where was that fish taken to for sale? To Bungendore, Queanbeyan, Braidwood, and Goulburn.
463. Has anyone attempted to supply the Sydney market from here? Yes.
464. Did that attempt succeed? It did, so far as the fish they caught was concerned. That is, what fish they did catch they had a market for in Sydney.
465. What is the price generally paid for fish in the country—say in this district? Sixpence per pound in the country.
466. Do you think the most modern methods of fish capture are employed here? No; the methods employed for fishing on the lake are primitive.
467. Is this fishery capable of expansion and development? Yes.
468. Have you any reason to believe that the supply of fish in the lake is growing less? I believe that there are as many fish in the lake as ever there was.
469. Have you ever known any cases of dynamiting in the lake? Not in the lake.
470. Mesh nets have been employed here? Yes; they have employed meshing nets—a 5-inch mesh—for the capture of fish, and it has been successful. The other means of capture has been cross-lines with hooks snooded 6 feet apart. I have caught a large number of fish by cross-lines myself in Lake George.
471. What bait did you use? Frogs, grubs, worms, the flesh of birds, the entrails of swans, the spinal marrow of sheep and bullocks, and fresh fish. In some rivers they use the fresh-water prawn and-crayfish.
472. What is the best bait? I have found grubs and fish about the best.
473. Do you think the cod spawns more than once a year? I do not think so.
474. As to the carp in the lake, have you ever caught any by line? Not by line. I have seen them caught by rushing them into shoals. They were caught by spear or with a net. This is done when there is a fresh in the Turalla Creek.
475. Are they in any quantity in the lake? Yes; a large quantity.

Mr. F. Nelson. 2 Sept., 1895.

476. Do they form food for the cod? I am unable to say, but am of opinion they do.
477. Do you think that by proper regulation this fishery could be developed and a regular supply of fish maintained for the Sydney market? I think so. There should be a large industry of that kind established here.
478. You think that if some means could be contrived by which the fish could be sent to Sydney in proper condition a big industry could be established here? I am certain of it from my own experience. I know people who have attempted to carry on the industry who have not attended to it in a proper manner and yet gained a good livelihood.
479. Supposing they did not engage wholly in sending fresh fish to the Sydney market could they supplement their income by smoking and curing the cod? I am certain of it; the cod are excellent fish smoked.
480. Do you think the brown trout, or lake trout would do well here? Any lake fish ought to do well here.
481. Can you say whether the public have a proper means of access to the shores of Lake George? The public have not a ready means of acccess to the eastern shores of the lake although there is a lot of Government land there.
482. Would it be advisable as well as judicious on the part of the Government to resume an area which would form a road of access to the water frontage to the lake, and likewise make a good drive right round the foreshores? It would be a great advantage to the public, and it is very necessary that such a thing should be done in the public interest, as at present the public have not access to all parts of Lake George.
483. I understand at present there are only two reserves on the lake shore at which the public can land? Yes, that is so, only two at which they can land, there is a third reserve of some hundreds of acres in extent on the Butmaroo Creek, to which there is no access at present either by road or water, as the original road to it from Bungendore is closed up by Mr. P. H. Osborne.
484. Do you think if this fishery were developed, and a means of access given to the general public for recreation, and other purposes, the expenditure in forming such means of access would be justified, seeing that Lake George will in all probability be largely resorted to in the not distant future? Yes, especially if the fishery was supervised, and other kinds of fish introduced into the lake.
485. You have a good knowledge of the fisheries in the Queanbeyan district? Fairly so.
486. Have you ever seen any evidence of trout propagating there? I have not seen any trout in the Queanbeyan waters.
487. Have you seen other kinds of fish there? Yes, Murray cod, perch, and carp.
488. Who placed the carp there? I cannot say.
489. Have they been long there? Some years.
490. Are the rivers pretty well supplied with fish in your district? Yes, there is a fair quantity of fish there; a good deal of fish is caught each year both in the Murrumbidgee, the Queanbeyan, and the Molonglo Rivers.
491. The rivers you speak of are permanent streams, they are snow-fed? Yes, they are permanent streams; the Murrumbidgee is snow-fed.
492. Is Lake George a pleasure resort during the year? Yes, a great number of people visit Lake George in the summer.
493. Can you say how many people have been there at one time? We had a regatta here during my stay and nearly 1,000 people attended it; I have known other sports arranged which have been attended by 400 and 500 people. I would like to mention that I have heard a new Bill has been prepared by the Royal Commission, dealing with the Fisheries of the Colony, and I should like to say that where there have been licenses issued to fishermen, that license has apparently only been extended to the boat they use, consequently they could have two, three, or six men at work fishing at the same time with that boat. That would only mean £1 per annum to the revenue. I would suggest that a clause should be added to to the Bill that each and every person fishing, whether amateur or professional, should be required to pay a license. I know during my time as an inspector here there were only about three licenses issued during the year, those were for three boats, yet there were about twelve men engaged; that meant a distinct loss to the revenue.
494. *Mr. Thompson.*] Have you observed anything of this disease amongst the fish? Yes; at Queanbeyan, in the river there.
495. What shape does it take? White patches on the sides of the fish immediately behind the gills. Both the top and bottom lips were apparently affected by some fungus growth.
496. Do you know the disease termed *saprolegnia ferax*? I did not know of it until I was in communication with the Fisheries Department.
497. Did the Department of Fisheries explain its origin? They said it was brought about by stagnant water, and sent me a description of the malady.
498. Is the Queanbeyan River a stagnant stream? No, it is not.
499. Then it would appear that that could not be the cause so far as the Queanbeyan is concerned? No; not to my mind. The Queanbeyan is a running stream all the year round.
500. Does the cod when spawning form a ridd? I cannot say.
501. Do you know how long it takes between the extrusion of the spawn and the hatching of the fry? No.
502. Would it be a hardship if the creeks running into the lake were permanently closed, so as to afford protection to the spawn and fry? I think it necessary to close the creeks to protect the fry, and I also think the lake should be properly supervised for the same purpose.
503. Would you advise the offering of a reward for the destruction of fish-eating birds? Yes.
504. What would be a fair price per head to pay for their destruction? Fourpence per head.
505. What size mesh would catch an 8-lb. cod? A 5-inch mesh.
506. What would you make the minimum weight of a fish to be caught? One pound.
507. Have you received any instructions from the Fisheries Department telling you how to deal with the *saprolegnia ferax*? I have not.
508. Does any deleterious matter discharge into the Queanbeyan River? Not at present. Soap and soda has been discharged from the woolwash.
509. When did that discharge cease? About a month ago.
510. Did it have any effect upon the fish? I rather think it did, although no fish were found dead in the immediate vicinity of the place.
511. Where were the dead fish found? Above the wool-wash and boiling-down works. There were none found nearer than 1 mile above the wool-wash.

THE

THE SNOWY RIVER.

SATURDAY, 19 *OCTOBER*, 1895.

[*The Commission met at Boloco Station, Monaro, at 4 p.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Reuben Uther Bartlett Rose, Esq., Boloco Station, Monaro, sworn and examined:—

R. U. B. Rose, Esq. 19 Oct., 1895.

512. *President.*] How long have you been residing in this district? Twenty-two years.
513. Are you acquainted with the river system of Monaro? Yes; very well acquainted with it.
514. Is the Snowy the main river—the chief river of Monaro? The Snowy is the main river here.
515. How many tributaries has the Snowy? A large number. I cannot exactly say; but I know of ten or twelve good tributaries.
516. Is the Snowy a permanent stream? Yes; undeniably permanent.
517. Are the tributaries all permanent streams? All the good tributaries are permanent.
518. Where do the tributaries principally take their rise? Several of them take their rise in the mountains adjoining Kosciusko.
519. So that most of them are snow-fed? Yes; that is so.
520. Have you ever known, during the driest season in the Monaro district, any of the tributaries, or the Snowy itself, to run dry? Never.
521. Have you made any experiments with a view of ascertaining the temperature of the water in the main river and its tributaries? No; I have not.
522. Are you of opinion that the Snowy maintains a good even temperature throughout the hot season? Yes; there is no doubt about it.
523. I understand you have taken considerable interest in the development of the inland fisheries? Yes; I have.
524. Is there much fish life in the rivers you know of at the present time—have you caught any fish? Trout in the main river.
525. Have you any indigenous fish in the rivers of Monaro? Excepting eels, there were no other fish until we carried them from Currawang Crossing and put them in the Snowy River; we put mountain trout—*Gadopsis marmorata*—in the Snowy River above the Falls; perch are to be caught below the Falls.
526. Has any attempt been made to introduce the trout or any other species in the river system of Monaro? Yes; fish have been put in the river. I have a short statement referring to the subject which I would like to read; it is as follows:—

In anticipation of the visit of the Members of the Royal Commission on Fisheries to Monaro for the purpose of inspecting the streams, rivers, and lakes, with a view to their suitability for a hatching-station, I should like to offer a few remarks concerning the fish liberated in our streams, and the success attending that enterprise. In 1883, Mr. W. Beaty, of Bullembalong, conveyed some fish, Crucian carp, from a stream near Goulburn, and liberated them in a lake on his estate. As it was known that the fish had increased, and there was a probability of the lake drying up, in 1885 it was that gentleman's wish that the fish should be removed to the river and lakes of a greater depth, with a view to their preservation. Mr. W. Hepburn, J.P., of Coolamatong, was the first to take steps in the matter. Procuring a net, he made it known that all interested in pisciculture were welcome to its use. I, in conjunction with Mr. A. Crisp, Mr. A. Rose, of Campbelltown, and Mr. H. Merrett, started for the above lake, where we met Mr. Hepburn, who gave us every assistance in securing a supply, some of which were liberated in the Snowy River, at Jindabyne, on 14th May of that year. Others were liberated in the Mowembah, a tributary of the Snowy, and in Jillamatong Lake; and a number were given their freedom, by Mr. Merrett, in the Snowy River, bordering that gentleman's estate. A few taken by Mr. Crisp and placed in a pond fed by a spring have acted ever since as a kind of hatchery, from which many hundreds have since been forwarded to the different lakes and streams of the district. Messrs. Betts and Gale successfully conveyed from Ballarat, Victoria, English trout, perch, and 40 Russian carp, which were distributed in tributaries of the Murrumbidgee and other rivers; Mr. Edwards, of Burnima, receiving a number of trout and perch, which he placed in a tributary of the Snowy. But it remained for Mr. Henry Dawson, then Member for Monaro, and an enthusiast in pisciculture, to obtain English trout, *Salmo Fario*, for the upper and more suitable waters of this matchless stream. A small consignment of this valued fish was forwarded to me from the Fisheries Department, Sydney, through this gentleman's influence, and liberated by me in the parent stream, some 10 miles above Buckley's Crossing. Never relaxing in his efforts to obtain fish for our streams, in the following year a consignment of brown, Loch Leven, and Californian brook trout fry reached me from Sydney. There were not many deaths. Some of the Californian fish I conveyed to and liberated in the Mowembah, a stream suitable for cold climate fish; the others were placed in the Snowy, the trout being liberated at suitable places in the same river. On 11th October, 1891, Mr. Amos Crisp liberated 11 English trout fry in a small lake at Jimenbuen, part of a consignment forwarded to me; and on the 16th December, 1894, one of these fish taken in a net, measured 25 inches in length, 15 in circumference, and weighed 7 lb. The fish in question was kindly brought to me by Mr. Crisp on the evening of its capture, and forwarded by me to Mr. Frank Farnell, President of the Royal Commission, on the following day, and by that gentleman sent to the Sydney Museum, to be mounted, where it is now to be seen, a splendid specimen of *Salmo Fario*. This, then, proves the suitability of our lakes for trout-rearing; and Mr. Crisp is to be congratulated on the success which attended his efforts.

Early in January, 1895, an English trout weighing 3 lb., was caught by hook and line, Master G. Collman being the captor, in the Snowy River, near Buckley's Crossing. This fish was brought to me a short time after its capture, and contained a large quantity of roe. The young man informed me he was greatly excited when bringing it to bank, on account of its struggles, and beautiful colour, and little wonder, when the description in the "Practical Angler" is before you: "his symmetry and colour are unexceptional, and when contemplated by its captor, immediately on being banked, is a richer feast for the eyes than the prettiest *Salmo Salar*, ever produced in English waters." This young gentleman deserves the thanks of all interested in angling as being the first to prove that English trout were prospering in the Snowy. In 1892, Mr. Dawson informed me that 1,200 trout fry would be forwarded to me from the Fisheries Department, and I, in company with Mr. Crisp, met the consignment at the railway station, Cooma. That was on the 13th of September, and in a few hours after their arrival, about 300 were liberated in the river, at Buckley's Crossing. About one-third of the number were dead; the rest were placed in jars, filled with water from the Snowy; and on the following day Mr. Crisp liberated 21 in the large lake at Jimenbuen, (where he had previously placed some on October 11th, 1891), and 97 at a favoured spot in the Snowy. Thirty were liberated by me on the same date at Ironmungy, in a lovely reach of the Snowy; and the fact of no deaths occurring after being placed in water taken from the river proves the suitableness of this stream for trout. Mr. Crisp also assisted me in procuring a number of mountain, or marbled trout—*Gadopsis marmorata*—from the Snowy River, below the junction of the Quedong. These were caught with hook and line, and we succeeded in carrying them in buckets over the rough country intervening to his residence, and thence to a portion of the river 80 miles above the Falls. It is impossible for fish to pass this barrier, hence our undertaking some six years since, and these fish now afford good sport to the angler. These particular fish were originally brought from the Slip-pannell River, Victoria, by Mr. Herriott and liberated in the Delegate, from which they found their way to the larger stream; and our success was mainly due to Mr. Crisp's

Crisp's untiring energy, and perseverance. I have not known this fish to scale over 1 lb., but a writer in the *Town and Country Journal* stated he had known them to weigh 3 lb. They bite well, and are a delicate table fish. The fish from Bullembalong Lake, are the Crucian carp, and as an instance of their increase, I may state that, when dragging the net for trout in the small lake at Jimenbuen, over 500 of these fish were taken at one haul, the largest weighing 3 lb. So far as I know they afford no sport to the angler, as I have never known one to be caught with hook and line. In the autumn of 1894, I forwarded, with Mr. A. Rose, of Campbelltown's assistance, a number of English perch to Mr. Hepburn, of Coolamatong; but as many died in transit, only six survived to be liberated in the Coolamatong Lake. Those fish were obtained at Mount Gilead reservoir, near Campbelltown. Messrs. Dawson and Miller obtained a number of English perch and tench from the same water, which they placed in the Umaralla River, a tributary of the Murrumbidgee, and I was informed by Mr. Vale, of Cooma, an ardent fisherman, that he had caught two of the former in the latter stream. The tench I have not heard of. A number of trout fry have been liberated in the Murrumbidgee and its tributaries. It is said that American rainbow trout have been placed in the Eucumbene River, but of this I have no authentic information. Fish have been caught in the Snowy River, near Buckley's Crossing, within the last twelve months; but as I had no opportunity of determining the species, I am quite powerless to report. I have not known any of the Californian brook trout to have been either seen or captured, but was an eye witness of a fine fish sporting in the main stream, which I feel sure was an English trout. Perch are to be caught in the river below the Falls—a splendid fish—and although the river has been fished for many years, no small fish of this species are ever caught. Last year we obtained, for the first time, a fish new to us, which I have since learned is the *Aphrites cassi*, allied to the whiting, and it is the opinion, advanced by a competent judge, that the spawn of this fish was conveyed to the Snowy River by shags, which infested the stream in numbers a few years since.

R. U. B. Rose, Esq. 19 Oct., 1895.

We possess then this magnificent river, taking its rise at Mount Kosciusko, 7,308 feet above the level of the sea, fed for many months of the year by the pure snow waters, its ana branches bountifully supplied by cold and limpid mountain streams, ever rushing onward in its irrepressible and illimitable gladness over its gravelly and boulder-strewn bed. It stands out pre-eminently the pearl of all rivers in the south, is pronounced by anglers from other climes as the trout stream *par excellence*, being in every way fitted by nature for the future home of the trout.

527. In your statement you mentioned something about the lakes having been stocked with a small supply of trout? Yes.

528. Are there many lakes on Monaro? Yes; beautiful lakes.

529. Would they act as natural breeding grounds for whatever fish were introduced into them? I should think so. In the smallest lake—we have one at Jimenbuen—we caught a trout weighing 7 lb. He was netted.

530. At what stage of growth were the trout you speak of liberated? At what age?

531. Yes? They would be about six weeks old, and about ¾ of an inch long.

532. Do you find much loss occur in transit? Out of the last 1,200 trout fry sent here, more than one-third was lost.

533. Do you approve of liberating trout at such an early stage of growth? No, certainly not. It is better to keep them until they are 12 or 18 months old at least. At that age they would be better able to protect themselves from their enemies.

534. Have the experiments, although conducted on a small scale, been successful? Partially successful.

535. Do you think the waters of the Snowy and its tributaries are suitable for, and adapted to, the purposes of trout acclimatisation? Yes, in every way.

536. Would there be any difficulty in obtaining a suitable place for the construction of a hatchery for the artificial propagation of trout and other kinds of fish? No; a good site could be found at many places along the river, either above the bridge at Buckley's Crossing or below it.

537. If trout were propagated in the waters of the Snowy, would they in your opinion be hardier than those hatched in a higher temperature? Undoubtedly they would, and a far greater number of fish would be saved. They would be sounder, more vigorous, and healthier fish in every way.

538. Do the residents of this district take any interest in the question of fish acclimatisation? Yes, a very great interest.

539. Do you think they take sufficient interest to afford assistance in order to help in the development of the fisheries of this district? Yes; I feel confident every possible assistance would be willingly given.

540. Is the climate such as will allow of the successful artificial production of the varieties you wish to introduce here? Yes, undoubtedly so. From facts that have come within my own knowledge, I have not the slightest doubt about it. The fish could be hatched here and they would thrive wonderfully well in the Snowy and other rivers.

541. Has any attempt ever been made to introduce the Murray cod into the Monaro waters? No.

542. Then it remains to be proved whether the cod will do here? Yes. It was in contemplation by a number of us to bring the Murray cod over but it was thought advisable, the Snowy River being such a beautiful stream, to leave it wholly to the trout.

543. What is the average depth of water in the lakes on Monaro? From 12 to 15 feet in summer in the larger lakes. I know of a lake at Bungarby, which has a depth of over 26 feet. It is a very large lake and it has never been known to go dry.

544. Is there plenty of Government land available for settlement in the district, and could Government land be obtained alongside of the river for the erection of a hatchery? There is plenty of Government land in the district.

545. Is Buckley's Crossing, or Dalgetty as it is called, a Government township? Yes.

546. So that there is land available there for a hatchery? Yes.

547. Where would be the most suitable site for the establishment of a hatchery? At a place called Carroll's Corner; that, in my opinion, would be the most suitable site for a hatchery.

548. How far is that from Buckley's Crossing? About 8 miles.

549. Is that Government land? Some parts of it.

550. I mean on the river banks? There is Government land on the river banks. There is Government land at Buckley's Crossing from the bridge across the river down into the village, the village reserve fronts the river.

551. I suppose, if the streams of Monaro were stocked with suitable fish, and they were allowed to grow to maturity, there would be a great inducement for anglers to come here from different parts of Australia and indulge in the sport of fishing? Yes; I believe anglers would come from all parts of Australia. They go to Tasmania, Victoria, and New Zealand; and why should they not come here?

552. Do you think if trout-fishing could be obtained it would lead to settlement in the district;—are you of opinion that gentlemen would erect fishing-boxes on the banks of the river? Yes; directly the fish were sufficiently large to be taken.

R. U. B. Rose, Esq. 19 Oct., 1895.

553. *Mr. Thompson.*] Are there any falls at Buckley's Crossing township by which water could be conveyed by a race to a hatchery, supposing one were established—a hatchery must be erected above flood-level;—would it be possible to convey the water on a line above flood-level to Buckley's Crossing? I think so.
554. Are there falls more than sufficient to allow of the working of a ram? I can hardly say; but there is sufficient fall in the river by natural gravitation to gain the required stream of water by providing a tail-race for about three-quarters of a mile. In my opinion the scheme would be more successful if water were raised by artificial means.

Henry Dawson, Esq., solicitor, Sydney, sworn and examined:—

H. Dawson, Esq. 19 Oct., 1895.

555. *President.*] You represented the Electoral District of Monaro in the Legislative Assembly for a number of years? Yes.
556. I understand you have taken a very deep interest in fish acclimatisation, and in the development of the fisheries of this district? That is true.
557. Are you conversant with the river system of Monaro? Yes; with every mile of it.
558. Have you seen any evidences of fish-life—I mean indigenous fish—in those rivers? None at all in the eastern waters of Monaro. There are fish, I believe, below the Popong Falls, about 90 miles below Buckley's Crossing, but I never saw them.
559. So that whatever fish-life is to be found in the tributaries, and in the Snowy River itself, is the result of introduction and acclimatisation? With the exception of eels. Eels are indigenous. The western waters of Monaro contain perch and cod, but no eels.
560. Have you ever known the main river or its tributaries to run dry? I think in the driest season I ever recollect on Monaro the Snowy River was higher than I have yet seen it; that would be accounted for by the snow on the Australian Alps melting during the hot summer months, which is the time streams in other parts of the Colony run nearly dry. There is an immense snowfall on the Muniong Range during the winter months.
561. Do you consider the Snowy and its tributaries to be suitable places for the liberation of trout fry or other kinds of fish suitable for acclimatisation? I suppose very few men know the Victorian and New South Wales waters better than I do. I have been all over them, and I can say I know of no waters anything like as suitable for the acclimatisation of trout or any cold-water fish.
562. You believe the temperature of the water is such as to put it beyond doubt that there are great possibilities of success if trout and other cold-water fish were introduced here? I am positive that is so.
563. I understand you have been the means of introducing the trout into this river? Yes. With reference to the acclimatisation of trout, I would like to state that, hearing in 1877 that trout fry had been obtained from Ballarat by Mr. Gale, of Queanbeyan, and placed by him in the Murrumbidgee and some of its tributaries, as well as in the Bibbenluke, a tributary of the Snowy, I determined the following year to obtain some for the Snowy River. Accordingly, in 1878, I obtained about 150 from Ballarat, and 500, I think, from Mr. Lindsay Thompson, the then Secretary to the Fisheries Commission. Some of these were forwarded to Mr. Rose, of Boloco Station, and placed in the Snowy River; the remainder were forwarded to Mr. Edwards, of Bibbenluke. In each succeeding year till 1894, through the kindness of Mr. Thompson, I obtained trout of various kinds, which have been placed in the Monaro rivers by Messrs. R. Rose, J. Harnett, Edwards, and Orr, of Michelago, the latter having about 200 for the Murrumbidgee. Mr. Rose placed the fish in the Snowy, and a few in a lake. From this lake a large fish of 7 lb. was taken this year. Mr. Harnett placed his fish, which were Loch Leven trout, in the Eucumbene River, and a few in the Eucumbene Lake. From all accounts these fish have thriven, as the fry have been seen this year in the Toll-bar and Hughes' Creeks, mountain streams, and a fish of about 1½ lb. has been seen by Mr. Barrett in the Frying-pan Creek. I also heard on good authority that rises were seen last summer in the Eucumbene Lake. I have also been informed on the most reliable authority that the fry have been seen in the Bibbenluke within the last two years, whether the offspring of the trout sent by Mr. Gale or myself it would be hard to say, but probably from both. It must be borne in mind that the Snowy is a large river, and on account of its width, even in the shallows, it would be very hard indeed to notice the fry in the main river; in fact, the river might contain fry in the thousands before they would be noticeable; but the fact of the young fry being seen in the various feeders proves beyond all doubt that the fish will thrive in this river. The climate of the country through which the river flows is certainly more like that of the home of the trout than any other part of Australia. I may add that it is my opinion that to properly establish the trout in our streams it would be necessary to erect a hatchery on the Snowy River, and from my local knowledge of the river I would recommend Jindabyne as the place. I am under the impression that if this was done, and the ova hatched, there would be very little loss, as everything is so favourable with regard to the temperature of the water and climate, and it would do away with the long carriage from Sydney. The Fisheries Commission, I believe, have succeeded in hatching trout ova at Prospect, but even if fish are hatched there in numbers, there must always be a great percentage of loss in deportation, and it must not be forgotton that fish reared in a cool climate on a gravelly bottom are in every way superior to those reared in a warm or even temperate clime, being much firmer and pink in colour.
564. Why do you mention Jindabyne as the site for a possible hatchery? My reason for recommending Jindabyne is, that I thought the river not being of great volume at that place, it might be better; but I must admit I know nothing of engineering, and therefore will say that if a hatchery could be established at Buckley's Crossing, and the water pumped up or raised by other artificial means, I would recommend its establishment there, in preference to Jindabyne. There is a Government reserve at Buckley's Crossing, and a great many unsold allotments of land. It is also a township, and within convenient distance of Cooma; whereas at Jindabyne the hotel there is part of a station property, and land would, I think, have to be resumed for the purposes of a fish-hatchery. Another thing is, that at Buckley's Crossing the residents have been very enthusiastic with reference to fish culture and acclimatisation. They have taken long journeys to Cooma, and although the Government have forwarded fish to Cooma railway station, the expense has always been borne by the people of the district, and mainly I think, by Mr. Rose, of Boloco Station. So far as Jindabyne is concerned, I do not know of any individual who has taken any interest in fish acclimatisation, and no one has made any application to me for a single fish.

565.

H. Dawson, Esq. 19 Oct., 1895.

565. How many tributaries of the Snowy do you think could be considered suitable for trout, if the fish were introduced? I think at least twenty-five, and all of them would make splendid trout streams, the water being clear and cold, with gravelly bottoms, and each of them is larger than the streams in Victoria in which I have caught trout.
566. In reference to the lake system of Monaro, are those lakes connected with the Snowy River—are they fit for the reproduction of trout? I would not like to say that. I will give my reason: At Lake Wendouree, Ballarat, from whence the water is taken for the acclimatisation ponds, the summer before this the trout were dying on account of the heat. We might have these lakes stocked with fry, and then it might come a dry season, and we might lose all of them; it would be very much safer to put the trout in the river, as we need fear no loss if that is done, there being an abundance of water. The hotter the weather the colder the water, on account of the snow melting. I think trout would do in Jillamatong Lake, and Cootralantra, and Eucumbene.
567. What was the size and age of the fish originally put into this river by yourself and others? About three-quarters of an inch long, and six weeks old.
568. Do you consider that a desirable age to liberate fish in these streams? Certainly not. I should like to see yearlings put in. At that time the Fisheries Department had no means of keeping them in Sydney, and were glad to get rid of them.
569. Do the Monaro waters maintain an even temperature throughout the summer? Yes, I think they do; towards evening the water gets a little cooler.
570. If the streams of Monaro were thoroughly stocked with suitable fish, do you think it would be an inducement to anglers to come to the rivers and indulge in fishing? Yes, most decidedly, considering now that I know that fifteen or twenty gentlemen are going to Victoria to fish, and lots are going to Tasmania; if we had good fishing here we would have a great number of visitors to the district.
571. *Mr. Thompson.*] Can you point out to us the position of the Government township at Buckley's Crossing? Yes; it is bounded on the south by the Snowy River, and on the other three sides by the Longfield Estate; there are over 200 acres of Government land in the township.
572. Sites could be readily obtained there above flood-level? Yes.
573. Do you know of any suitable spot for a hatchery on the Boloco run? Yes; there is a very good place at Carroll's Corner, and there are half a dozen good places between Carroll's and Buckley's Crossing.
574. I suppose Buckley's Crossing would be the most desirable place, inasmuch as it is the nearest point to the railway? Yes; it is 8 or 9 miles nearer to the railway than Jindabyne, and a much better road.
575. There are no indigenous fish in the Snowy? No—except eels; of course I mean the Snowy as it runs through the Monaro district.
576. *President.*] The Popong Falls—was not an offer made some years ago to cut them away in order to provide unbroken communication with the sea? I made representations to the then Government, as I had an offer of 7,000 salmon ova, and was anxious to put them in the Snowy River. I consulted with Mr. Lindsay Thompson with reference to hatching them, and he told me he thought if this could be done he could hatch the ova, because he intended, if possible, to hatch salmon trout in the following year; I think that was 1886. Mr. Thompson very kindly gave me the names of the salmon to get. He mentioned the quinnat as being the salmon most likely to thrive in our warm ocean waters. The Government did nothing in the way of clearing the river, so I did not get the salmon ova.
577. What was your estimate of the cost of blowing the obstruction away? I had information to the effect that the sum of £400 would have cleared a passage sufficient for salmon to get up the river after going to the sea.
578. Have you ever heard of the landlocked salmon? Yes, I have; I made inquiries about almost every sort, especially the American fish, both salmon, char and lake fish, and I believe that the ova could be procured. I think the landlocked salmon might thrive in the Snowy River, as there is great depth of water and an immense area of water.
579. Does this salmon possess all the edible properties of the migratory species? I am told there is no difference; I believe it does not weigh so heavy; if you get one 30 or 35 pounds it is a big fish.
580. Have you heard of any other description of fish that has been successfully introduced into the waters of Monaro? Yes. Mr. Miller, M.P., and myself placed 100 odd tench and thirteen English perch in the Umaralla River, and the tench have thriven, and some of them have been caught since.
581. Would you advocate the introduction of any other species of fish into the Snowy if trout are to be placed there? No, certainly not; the perch is a kind of fresh-water shark, and the tench is no good when you get him. The perch is very voracious, and would destroy the young trout fry. There are lots of lakes on Monaro that would suit the pike admirably.

Henry Charles Merrett, Esq., J.P., Buckley's Crossing, Monaro, sworn and examined:—

H. C. Merrett, Esq., J.P. 19 Oct., 1895.

582. *President.*] How long have you resided in the district? Thirty years.
583. Have you a good knowledge of the river system of Monaro? Yes; I have been to the head of the Snowy River, and know that stream well.
584. Do you consider the Snowy River and its tributaries permanent streams? Most certainly I do.
585. Would they be suitable streams for the introduction of trout? Most decidedly.
586. You have heard the evidence given by Mr. Rose and Mr. Dawson—do you agree with their statements? Yes; they are perfectly correct. The river and its tributaries would make splendid trout streams, being fed by snow-water. They have beautiful gravelly beds right up to Kosciusko.
587. Have you anything to say with regard to the suggestion to establish a fish hatchery on Monaro? Only this, that I think it will be most desirable, and most strongly urge the Commission to recommend, and the Government to undertake, the work of erecting a hatchery on the banks of the Snowy, as it would be of national benefit and a great success.
588. Do you approve of the suggested site at Buckley's Crossing? Yes. I think there is a suitable site on the village reserve at Buckley's Crossing, and there are other sites that might be more suitable. There is a site upon my own land, about 6 miles from Buckley's Crossing, and if the Government desire it I shall be happy to give them a lease of whatever land may be required, free of any charge whatever; and, in addition to that, I shall be glad to afford any assistance in my power.

H. C. Merrett, Esq., J.P. 19 Oct., 1895.

589. *Mr. Thompson.*] Is Buckley's Crossing the first point of contact with the Snowy River coming from Cooma? It is the most readily accessible point on the river. It is about 28 miles from Cooma railway station, on a good road, and can be reached in fair weather in four hours' driving.
590. So that if the Snowy and its tributaries were well stocked with trout there would be a great inducement to people to come here for the sport of angling? Yes; and there are many miles of Government land available on the river on which could be erected fishing-boxes and other places.

THURSDAY, 31 *OCTOBER*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

The Hon. R. H. D. WHITE, M.L.C. | L. G. THOMPSON, Esq., J.P.

Gustave Thomas Carlisle Miller, Esq., M.P., sworn and examined:—

G. T. C. Miller, Esq., M.P. 31 Oct., 1895.

591. *President.*] You are the present member for Monaro? I am.
592. You represented the old electorate for a number of years? Yes; in conjunction with Mr. Henry Dawson.
593. Are you well acquainted with the Monaro District? Yes.
594. Do you possess a good knowledge of the river system of Monaro? Yes.
595. What is the main river? Well, there are two main rivers, the Snowy and the Murrumbidgee; I suppose the Snowy is the main river of Monaro.
596. Is the Snowy River a permanent stream? Undoubtedly; the snow melting makes it a permanent stream. It also has many tributaries which guarantee the permanency of the river itself.
597. Where do the Snowy and its tributaries take their rise? In the mountains, the Australian Alps.
598. Does the Snowy maintain an even temperature during the summer months? Yes, in the summer and in the winter; I have bathed in the Snowy River at different parts, and at all seasons, and I am confident it maintains an even temperature.
599. Do you think the Snowy, with its tributaries, is suitable for trout culture? I am positive of it from what knowledge I have of the subject, and from what I have heard and read of the habits of the trout in the old country.
600. Have any experiments been made in the way of distributing trout in the Snowy or its tributaries? Yes; thousands of trout fry have been liberated in the Snowy River and its tributaries.
601. Is there any evidence to show that those fish have succeeded? Yes, there is, especially in the Bibbenluke River. I had a conversation with Mr. Henry Copeland, M.P., the other day, and he told me that when he was passing through Bibbenluke he was asked by the station manager, Mr. Edwards, to go and see for himself the result of the trout distribution in the Bibbenluke River. Mr. Copeland told me he saw trout fully 2 feet 6 inches in length, and further, that he noticed numberless smaller trout. I also know that one fish, a trout, has been caught in the Snowy River by a friend of Mr. Rose, of Boloco Station. That trout was sent to Sydney; it was a fairly large fish.
602. Is there a lake system connected with the Snowy River? There are many lakes on Monaro; but I cannot say they are connected with the Snowy. There are several lakes on Monaro—permanent lakes—which would be suitable for fish, if not trout for other kinds. I think trout have been placed in one or two lakes, and they have grown to a considerable size.
603. Would there be any difficulty in obtaining a suitable place for a hatchery on the banks of the Snowy River? Not the slightest.
604. Can you suggest a good site? Yes, there is a suitable one at Jindabyne, and another equally good site at Buckley's Crossing (Dalgetty), just above the bridge, and it is 5 miles nearer to the Cooma Railway Station.
605. Do you think if a hatchery were established on the banks of the Snowy, and trout propagated and placed in the river, it would be the means of growing a hardier and better fish? Most decidedly. The fish reared in a climate like that of Monaro must necessarily be better than those grown in a warm climate. The trout is essentially a cold-water fish.
606. Is there any Government land available at Buckley's Crossing that could be used for the purposes of a hatchery? Yes; at a place called Dalgetty, in the vicinity of Buckley's Crossing, there are a number of allotments, and land could be secured there. Some of the sites could be utilised for a hatchery.
607. Do you approve of the practice of placing young fry in the rivers at a stage of growth when they are unable to protect themselves against their enemies? No; and I would like to say that if trout-fishing is to be encouraged in this country, it would be far more advisable to have a hatchery on the rivers, than to hatch the ova in a warm climate like Prospect, and then send them to the colder regions of the Colony. The experience we had, a fortnight ago, in conveying trout hatched at Prospect to the Snowy River was very disastrous, only five per cent. of the fish so conveyed being alive on reaching the Snowy. I am aware that since then a number of trout have been sent to other parts of Monaro; but it was a costly process, and it entailed enormous expense to the Government. They had to send a man with the fish, and ice had to be used, and it was altogether pretty expensive. It would be far wiser to establish a hatchery on the banks of the river where the trout are intended to be liberated. Were a hatchery established on the Snowy River, the many streams forming tributaries to that river could readily be stocked with fish, entailing little or no expense to the Department; and in addition other streams on the tablelands of the Colony could be stocked with advantage.
608. Do you take a general interest in the development of the inland fisheries, as well as the marine fisheries? Naturally I do.
609. Are you acquainted with the Bill dealing with the fisheries and oyster fisheries of the Colony, which has been prepared by this Royal Commission? Yes; partially acquainted with it.
610. Do you approve of the measure? So far as I have gone through it, I think it is a very desirable Bill, and one which will meet with general approbation from members of the House of Parliament.
611. I suppose you are of opinion that it is time some attention should be devoted to the question of developing and conserving the inland fisheries of New South Wales? Certainly. Such a step would be most beneficial; and I am quite satisfied if the acclimatisation of trout is carried out on a proper scale in

in the Monaro waters it will cause that district to become another summer resort for anglers, sportsmen, and tourists generally. G. T. C. Miller, Esq., M.P. 31 Oct., 1895.

612. *Mr. Thompson.*] I suppose you consider that apart from the advantages of angling, as such, the trout from a river like the Snowy would command a high price in the Sydney and other markets, and being a valuable article of food would create an industry? There is no doubt about it.

613. Considering the mountainous nature of the Monaro country, do you consider a hatchery at Dalgetty would be sufficient for the whole of the district? I think so; I think it could supply the whole of the Snowy River; that is a proper hatchery would.

614. Would you be inclined to recommend the permanent reservation of the Snowy River for the *Salmonidæ* generally? I think it desirable to maintain the Snowy, as far as possible, wholly as a stream for the acclimatisation and propagation of the *Salmonidæ*.

615. Are you acquainted with the Popong Falls? I have heard of them.

616. Do you know whether they could be successfully cut away? I have heard so; I believe they could be cut away, and the advantage would be that the American or other species of salmon might be introduced in the Snowy and the fish would be able to go to the sea according to their habit.

617. The name of the township at Buckley's Crossing is Dalgetty? Yes.

618. Is there fish in quantity of any other kinds in the Snowy? I think not.

619. Then I suppose you are of opinion that the most valuable kinds of fish, such as the *Salmonidæ*, should be introduced into those waters? Certainly.

620. Would there be any difficulty in conveying fish along the river by means of canoes in order to overcome the rugged character of the country at certain places? I think that would be practicable.

621. Do the inhabitants generally of Monaro favour the establishment of a hatchery on the banks of the Snowy? Most decidedly, they do. I may say it is due to the energy of the inhabitants in this direction, they being very anxious to see a hatchery established on the river banks, that Mr. Dawson and myself have taken such an interest in this matter of the acclimatisation and propagation of trout. The people of the district were really the first to start the idea of turning this splendid river into a trout stream.

THE MURRAY RIVER.

WEDNESDAY, 16 *OCTOBER*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

John Moore Chanter, Esq., M.P.; sworn and examined:—

622. *President.*] Your name is John Moore Chanter, and you are the present member for Deniliquin? Yes. J. M. Chanter, Esq., M.P. 16 Oct., 1895.

623. Before representing Deniliquin you represented the Murray district for a number of years? Yes, for about ten years.

624. During that time have you had a good opportunity of judging of the capabilities of the Murray River and its tributaries, as far as its fish-producing qualities are concerned? Yes, numerous opportunities; my business took me all through the Riverina.

625. Have you taken an interest in the fishing industry? I have, with a strong desire to see the Murray and the Riverina waters properly conserved.

626. Are the rivers which run through your electorate navigable? The Murray is navigable nearly all the year round for about 1,400 miles; the Murrumbidgee and the Wakool are navigable part of the year only.

627. Have you ever made any representations to the permanent body of Fisheries Commissioners in respect to the matter of providing protection for the fisheries of the Murray? Yes, on several occasions I have pointed out to that body the terrible depletion of fish in this river consequent upon the unrestricted netting that is carried on, and I have recommended that they should enter into negotiations with the authorities in Victoria for the purpose of arming the inspectors with a joint control over the whole of the river. At present the inspectors acting for this Colony can only operate upon the River Murray itself, that is the waters up to the New South Wales banks: but as most of the netting is done from the Victorian side, the netters, immediately they see the officers, or hear of them coming, put their nets on the Victorian bank, and our officers are powerless to seize the nets or to interfere with them.

628. You would recommend that joint action be taken by the New South Wales and Victorian Governments with the view of supervising and controlling the fisheries of the Murray? Yes, very strongly; on several occasions I have been on the river with one of the inspectors, Mr. John Manton, and on one occasion I saw him openly defied by the fishermen on the Murray lifting their nets before they could be reached, placing them on the Victorian banks, and defying him to interfere with them. On another occasion I saw him defied at the Moira Lakes, which are the real breeding-grounds for the Murray River, and are very large, covering thousands of acres, the water averaging from 2 to 8 or 9 feet in depth, being mostly covered with reeds, in which the fish breed. On the Victorian side of the lakes it is just one mass of nets that are termed gill nets, and it is absolutely impossible for the fish to get out of the lakes into the river, no matter how small or large the fish may be. It is only the fish which are higher up that can get down the river. On the same occasion I assisted Mr. Manton in taking from some of the small creeks running from these lakes no less than three bag nets which were full of fish. I suppose I should be correct in saying that in the three nets there was not less than a ton of fish, and as this was a holiday time, and the netters were probably away at some sports, the fish had been in the nets for more than a week; a large number of them were dead. On the same occasion we saw where a net had been lifted on the river, and several hundredweight of good fish, not quite suitable for the Melbourne market, had been thrown on the bank to rot. On the whole river, from the Moira Lakes down to a place called Bama, about 7 miles distant, you would not lose sight of one net before you would see another. As they get nearer the town of Echuca they are more careful, as the inspectors are more about there; but lower down the river again,

towards

J. M. Chanter, Esq., M.P. 16 Oct., 1895.

towards a town called Koondrook, and from there to Campbell's Island, and up to Swan Hill, almost the same conditions apply as regard to nets as at Moira Lakes. That portion of the Colony is very low, and is intersected by a large number of creeks running from the overflow of the Murray into the Wakool, and into the Edwards River, and into what are called the Barbers' Creeks; these are breeding-grounds for fish, and on the last occasion that I was there—some few months ago—I saw nets within sight of the crossing-place, and there is no doubt that, seeing the nets were placed within view of anyone passing, there were large numbers that I did not observe. While on this point I may, perhaps, call your attention to a letter I forwarded to you as President of the Royal Commission on Fisheries, enclosing a paragraph taken from the Melbourne *Argus* of the 17th August last, which letter and paragraph, with your permission, I will read to you. The letter, bearing date 27th August, 1895, was as follows:—

Dear Mr. Farnell,—The enclosed extract is from the Melbourne *Argus* of the 17th inst., and I trust the Commission will take note how the Murray is being denuded of fish for the benefit of Victoria.

Yours truly,
J. M. CHANTER.

The paragraph referred to, dated from Swan Hill on the Friday preceding the date given in the *Argus* of the 17th August, reads as follows:—

The Fishing Industry.

Swan Hill, Friday.

The growing importance of the local fishing industry was demonstrated yesterday by the arrival of the steamers Invincible and Ellen here from down river with 330 baskets and thirty-two bags fish, the total weight of which was nearly 18 tons. The former quantity was consigned to Melbourne, and the latter to Bendigo, the freight received by the Railway Department being a few shillings within £40. This industry, fostered by the steamers, has been gradually but surely growing, and is now finding employment for a very considerable number of men many months in the year.

This is only one case, and possibly there are many others, and it certainly tends to show the necessity there is for the protection of fish and the fishing industry for the benefit of our own people, and it also shows very clearly the extensive nature of the transactions that are taking place. I may say that the fishermen are becoming emboldened by the want of action on our part to supervise this river, and by the laxity displayed by our own inspectors, for which I do not at all blame them, for the reason that two of these men whose duties took them through these parts were paid a small sum of £75 per annum each for the purpose of properly supervising the fisheries and seizing the nets, and I must say that they were very active in the performance of their duties, and a large number of nets were seized on the river, and largely owing to the attention paid by them the Victorian fishermen, who had been taking the fish, were a little more careful, and were not able to deplete the river as much as they are doing now. For some reason—I believe, for the purpose of retrenchment,—these men are still continued as inspectors, but without pay. I think this has been going on for about two years, and it naturally cannot be expected that they are going to put themselves to a great deal of personal inconvenience, which sometimes involves them stripping themselves and going into the creeks to get the nets, and taking them long distances to Police Courts for the purpose of having them confiscated, and that they should get no reward for their trouble, and they have grown careless in matters of supervision, and as a result of that having become known to the Victorian fishermen they have done what they have not done before,—they have practically employed these two steamers which are mentioned in the paragraph I have read to you, the Invincible and Ellen, for no other purpose than to steam down the river, and to take from these nets these large quantities of fish. I think it is fair to assume that when steamers are engaged in this business, this may be taken as only one of a series of a large number of other consignments which have been sent to Melbourne, and I would say that, as far as the Murray River and its tributaries are concerned, if this state of affairs is allowed to continue without some check being placed upon it, in a short space of time, instead of their being famed for fishing purposes, they will become entirely depleted of fish. There are several kinds of fish of the most valuable character,—the cod principally, the perch and the bream, they are very marketable,—and it is a most peculiar, and to my mind a very deplorable thing, that in our Colony we are under the greatest difficulty in getting this class of fish for our own people, but in Melbourne they are as plentiful as butcher's meat. I am strongly of opinion that this Commission should again urge the necessity of retaining the services of these two officers,—Messrs. Manton and Wilshire. I would recommend this Commission to urge upon the authorities the necessity of reinstating these gentlemen at their former rate of salary; and further, that the authorities here should open up communication with the Victorians, with a view of conserving the fish in this river for the future;—they should empower these two gentlemen whose names I have given to seize all illegal nets in the river, whether attached to the Victorian bank or otherwise. If this is not done, I am afraid that the depletion will go on in the same manner in which it is going on now. When I first went to the district, now some twenty-three years since, anglers could go to any part of the river, and within a short time would be able to catch a number of fish, if they stayed any length of time; but now the fisheries are so depleted you have to drive the fish before you have a chance. In addition to the nets, there are what they call cross lines, and these are put across the river, and across the creeks at all points; and baits are placed upon them, and they are sunk down with bottles filled with sand, and a large number of fish are caught that way. There are also other lines—night lines—used. As to the net called a bag-net, as you are perfectly aware it is a matter of impossibility for any class of fish to get through if they once get into this net; they are captured, and cannot get out. I would suggest if netting is legalised that the bag-net may be illegal, and only certain parts of the river be opened for the mesh that would catch the largest size fish only. When the cod gets to a large size there is no object in conserving it any longer; but the nets I am speaking of, more particularly the bag-nets, will catch sprats,—even the mussels that float into them. The gill-net has a very small mesh, and will catch fish a quarter of a pound in weight; they get caught by the gills and cannot get away. In conclusion, I may say that I am continually receiving complaints from the residents of the towns in my electorate with respect to the terrible destruction of fish in this river, and I have been repeatedly asked to bring the matter under the notice of the authorities; and I am pleased to place it before this Royal Commission, hoping that some good will arise from it, that the present defective conditions of supervision and other matters may be remedied, and that the people of the Colony will be able to enjoy the fish existing in their own waters, which I believe to be second to none.

629. Is the Sydney market availed of to any extent by the fishermen on the Murray River? Not to any extent.

630. Victoria reaps the whole benefit of the fisheries on the Murray? Yes; the whole of it. The only Riverina fish we get, that I know of, is from the Murrumbidgee, not from the Murray. 631.

631. Do you think it possible to develop the Murray River fisheries—I include the tributaries—so that a constant supply could be brought to Sydney? Yes; the only difficulty is the want of direct railway communication to that part where the greatest captures could be made. When the railway is completed the fishermen will have as good a market, and could place their fish here in twice the space of time they are now able to do in the Melbourne market. J. M. Chanter, Esq., M.P. 16 Oct., 1895.

632. You advocate that certain closures should take place in connection with the tributaries and lakes at certain times of the year? Yes, strongly; the danger is really more in the creeks than the river;—the fish go into these lakes, and as the water recedes they go back into the river and are anticipated by these nets.

633. You think it is necessary that the Victorian Government should pass a Bill that would authorise our inspectors to have proper control over the fisheries, so that the fishermen should not be allowed to fish indiscriminately as at present? Yes, with this reservation in regard to legalising certain classes of nets with a large mesh, a net adapted for catching the large fish.

634. Do you know whether any of the members of the permanent Fisheries Commission have visited the inland waters of the Murray or the Murrumbidgee? Not that I am aware of; I think not.

635. What do you think would be the value of the fish sent to Melbourne and other towns in Victoria in the course of the year? Well, I have had no opportunity of arriving at anything like a definite opinion in regard to that; it must be very large, because I have myself observed that on every occasion I travel by train from any part of the Murray I always see large numbers of baskets of fish being sent down—it is continuous.

636. Can you give us any idea of the number of men who are engaged fishing on the Murray and its tributaries? No; I cannot.

637. Do you think there are more than fifty? I should say there were three times fifty.

638. Do you know if they pay any license fee? Not to us; I do not know whether they do to the Victorian authorities,—that is the Victorian fishermen.

639. Do you know the quantity of fish that is sent over the Victorian border each year? I think it is considerably over 100 tons; the Victorian railways tap the Murray River at seven places, and fish is sent down from all those parts.

640. Did you say that the late inspectors, Mr. Wilshire and Mr. Manton, were employed at a salary? They were employed at a salary of £75 a year each.

641. And have their services been dispensed with? No; some two or three years ago—I think about two years since—they were notified that their services would be dispensed with, and therefore no further salary would be paid them. I thought this a very unwise proceeding, and at my suggestion, with a desire to conserve the fish, and hoping the authorities would see the necessity of reimbursing these officers, I induced them to undertake the work in an honorary capacity; but they have now been in that position for about two years, although I have on one or two occasions advised that they should be paid. These men have naturally grown sick of the matter, and under the circumstances they do not feel justified in carrying on the work.

642. Their services were absolutely dispensed with, and they volunteered to undertake the duties in an honorary position? Yes; they made a condition that they would continue to do the work without pay until financial matters were in a better condition. That condition was struck out, and they were informed they would have to do the work without any condition at all.

643. You made representations at one time to the effect that the Victorian authorities would be glad to co-operate to protect the fisheries? Yes; at one time they were willing to do so.

644. Did the Commissioners of Fisheries give you any encouragement in your suggestion? No; I cannot say I received any particular encouragement. I brought the matter under the notice of the Colonial Secretary and it was referred by him to the Commissioners, but nothing practical resulted from it. I was requested by Mr. Salmon, who was President of the Victorian Select Committee, to give some evidence before the Committee, and I then recommended what I now recommend,—that the Victorian authorities should arm our inspectors with full authority to seize the nets,—and this brought it under the notice of the Member for Rodney. Mr. Webb and another Member, Mr. White, asked him to take steps to induce the Victorian authorities to carry out what I understand was contained in a paragraph in the Report of the Victorian Select Committee, but during the last one or two years I have heard nothing further.

645. *Mr. Thompson.*] You have spoken of several kinds of nets, the gill-net and the bag-net, would you favour us with a description of these nets? The bag-net is a net which is stretched entirely across a creek, from bank to bank, from a few feet on either side of the bank; the net is fastened to a stake and is straight; then there is an inner net somewhat circular in shape inside that, within that again there is another inner net forming a second series with a smaller opening than that of the first, and then a third which is called the bag, with a small opening not more than a foot at the opening, then this bag is about 5 or 6 feet from this opening. The fish get through this opening and are surrounded by this balloon-shaped bag and cannot get back again; they cannot get out, the opening is so small; they swim round and round, and have no idea of getting out; if they do get out they are in the second series and first series. Now as to the gill-net—the gill-net is cast out into the lakes—one of these nets that I saw I am quite sure would be 200 feet long;—the net is fastened to stakes in a vertical position, sometimes in a semicircle, but more often straight across; a long net, then another net will be put some few chains above that, a little overlapping the end of the first net, and so on till they get a series right through. The fish in going through the reeds move the reeds about with their heads to get through. In the lakes they are easily caught; they look on the nets as a series of reeds, and, putting their noses in to get through, they force the gill and are caught in the gills. It is a series of nets in shallow waters, where there is no current.

646. What is the net they use which is extended by a series of hoops? That is the bag-net—it is hooped.

647. That is the sort of net in which you found the fish all dead, impacted together by the current? Yes; I am quite satisfied there was fully a ton of fish on that occasion. We have also lifted gill-nets and found dead fish in them.

648. What kind of net would you recommend as proper and legal for use in the Murray River? I should recommend a net on the gill-net system,—that is without any bag or attachment or other nets,—a plain wall-net with a mesh that would allow a cod under 6 lb. in weight to go through; anything under 6 lb. I do not think should be caught.

649. What size mesh would allow of that? I should think about a 5-inch mesh.

650.

J. M. Chanter, Esq., M.P. 16 Oct., 1895.

650. You would make that a minimum size mesh and fish that should be caught? Yes, for a number of years; I should strongly recommend it until the rivers were stocked again.
651. Would you recommend the seizure and destruction of all nets below that size? I would.
652. The seizure of nets we have altogether excluded from our Bill, as far as marine fishing is concerned; as regards inland waters that may be a matter requiring further consideration by this Commission. The Murray River and, perhaps, the inland waters generally may have to come under a different category, which the Commission will have to consider. In regard to the seizure and loss of one of these bag-nets to the fishermen, the loss is very considerable? I am told that they cost about £40, and in the past I believe all the nets that have been seized on the River Murray and its tributaries have been destroyed. Messrs. Manton and Wilshire would bring the matter before the Police Court and ask for authority to destroy the nets. In Victoria I think the class of net is illegal. I understand they are there sent to the Custom authorities.
653. What principle, in your opinion, should regulate the closing of waters on the Murray against net-fishing? I recommend that instead of closures being made in close proximity to the towns, the lakes and creeks should be closed, as they are the breeding-grounds. I should be pleased if this Commission could spare the time to go and see these lakes for themselves, and judge of their capabilities.
654. When do the cod spawn in the Murray? Well, I really could not answer that question.
655. You do not know how long they carry their spawn, or whether they carry it separate or attached? No, I do not.
656. What bait do they use? Meat, as a rule, and often large frogs.
657. At what depth are the lines set? Near to the bottom; the lines are sunk with bottles filled full of sand, and they are 2 or 3 feet off the bottom, right across.
658. Are the fry of the Murray cod easily obtainable? There is a Mission Station at a place called Cumeroogunga, about 16 miles from Moama, and about 12 miles from the lakes. I have seen the natives catch the fry in millions in little nets, and they fry them in their pans—little fry of about three-quarters of an inch in length.
659. At what time of the year? In the summer months—from the present month, October, up till about March.
660. I suppose, for purposes of propagation and distribution, it would be quite easy to get a supply of this fish? Oh, yes; quite easy.
661. Would the services of Messrs. Manton and Wilshire be sufficient to supervise the Murray River; would they require further assistance? Mr. Manton is the inspecting forester, and he has a steamer; he goes up the river as high as Albury, down to the junction of the Darling with the Murray; and that embraces all the breeding-grounds of the fish on the Murray. Below that point the nature of the country alters very considerably—the banks of the river becoming very much higher, and a different country altogether is seen; but the flat country—the swamps and the lakes where the fish breed—are in his district.
662. And you think their services would be sufficient to conserve those fisheries without further aid? I would not like to say that altogether. I think from the nature of Mr. Manton's occupation that it would be difficult to get any two or three men that could do as much good as he can, as he is always on the move on the river.
663. Do you recommend the payment of a fee for the destruction of fish-eating birds—seeing that the fisheries are protected only for the benefit of the Victorian fishermen? The lakes are fairly infested with these birds, and no doubt they destroy a large quantity of small fish; but while the present arrangements in connection with the nets are allowed to continue, I would not recommend the destruction of cormorants, as they do not destroy anything like the number the nets do; one should go with the other. It would be useless on our part to offer a fee without the Victorian authorities join in. I have known of one or two occasions, and heard of several others, that these birds have not been captured in New South Wales at all, but have been captured in other places and brought over here to get the reward. In conclusion, I shall be glad indeed if the Commission, as a whole, or some of its members, could arrange with the Department of Forestry to place Mr. Manton and his steamer at their disposal, and visit the Murray any time between now and New Year. The river would be navigable over the whole of its length, and the Commission would be enabled to see for themselves not only the nets but also the location of the country, and the necessity for conserving the lakes and breeding-grounds. After New Year the water shallows in parts, bars running across the river, and you might not be able to get down, except by driving; but now you would be able to get down the whole length of the river, and would be able to do so up to Christmas time.

THE MURRUMBIDGEE RIVER.

THURSDAY, 17 *OCTOBER*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Travers Jones, Esq., M.P., sworn and examined:—

T. Jones, Esq, M.P. 17 Oct., 1895.

664. *President.*] Your name is Travers Jones? Yes.
665. You are at present Member for the Electoral District of Tumut? Yes.
666. You have represented that district for many years? For seven or eight years.
667. What rivers are they that run through your electorate? The Tumut River; the junction with the Murrumbidgee is outside of my electorate, it is just about the boundary of the electorate of Gundagai; the Little River that goes into the Tumut River extends up to Talbingo Mountain, the head waters of the Snowy River, and several creeks that carry fish running into the Little River, and the end of the Tumut River.
668. Have you a good knowledge of the waters of these rivers and creeks? Yes. 669.

T. Jones, Esq., M.P.
17 Oct., 1895.

669. Can any of them be considered permanent streams? Yes; most of them—permanent waters all the year round, I do not think there is a creek in the electorate of any importance that goes dry, some minor ones may. The Nacka Nacka, Yaven Yaven, and Adjungbilly all contain fish and are permanent waters.
670. Do all those streams contain fish life? Yes; all of them.
671. Can you tell us the kinds of fish you have noticed in them? We have in the Tumut River and the Little River the cod fish, the bream, perch, and jewfish, or catfish. They are also found in the main creeks.
672. Are they all good, all edible fishes? Yes; all of them.
673. Are they caught with nets? I had to apply to the Fisheries Commission some time ago to stop netting at the junction of the Tumut with the Murrumbidgee, as the netting stopped the fish coming up; they got so scarce it was almost impossible to get any with the rod or line. The Commissioners closed 5 miles of the river both above and below the town, but that was of very little use, as the portion closed has not been netted at all; the closure was absolutely valueless for the purpose we wanted to serve.
674. Do you think the closure should have been made at the junction so as to allow the free ingress and egress of the fish? Yes; to allow them to go up to spawn; the constant netting prevented them going up. There are numbers of lagoons that contain quantities of fish which are also netted.
675. Do you think these lagoons are the natural breeding and feeding grounds of the fish? Yes, I am certain of it; I had a knowledge of trout and salmon fishing in Ireland in my early days; in the spawning season nature provides them with a horn on their nose, that is the lake trout; this horn is on the tip of the nose, for rooting up the sand for the female fish to spawn in; they make a hole in the sand for this purpose. In Loughs Mask and Corrib I have seen them with the horn on the nose. [*The witness was here shown a diagram of a trout caught in the Molonglo River, and he said the trout he spoke of had not the extended lower jaw but had the horn on the tip of the nose.*] I have caught them in Loughs Mask and Corrib; there was a subterranean passage between these loughs, and the eels were known to go through. Lough Corrib was a splendid lake for salmon-fishing, and had an outlet into the sea at Galway. Just before I left home, in the time of the potato famine, which, as you remember, was caused by the disease, the English Government cut a canal from Lough Corrib to Lough Mask to allow the salmon to go up, and to give employment; the salmon, as you are aware, leaps and sometimes jumps as far as 20 feet. In Lough Mask there is a superior kind of eel, the silver eel—the people would not eat the common black eel or conger eel—and these eels were caught at the mouth of this subterranean passage; there were openings down to this passage in several places, and they caught the silver eel going backward and forward to the sea; then there were the small salmon trout in the rivers, they were confined to the streams, seldom weighing more than 3 or 4 pounds in weight, sometimes 5 pounds. There are several kinds of trout, besides the large trout which took the fly. I may also state that trout have been introduced into small creeks on Ellerslie station; Mr. Webb is the manager; this station is in my electorate.
676. Do they reproduce? Yes, they got on very well; when I was up at Humula, which is 22 miles from Tarcutta, I was told there was a splendid lot of fish in Kyamba and Tarcutta Creeks. Mr. Yeomans owns the station, and Phillips, the trainer, told me that you could get any quantity there. It was cold weather when I was there and they would not bite; there is a creek there crossing the mountains said to be literally alive with young trout fry. I have heard that the fish introduced by Mr. Webb have succeeded and some nice trout have been seen.
677. Is it far away from the Tumut River? Oh, yes; it is 50 miles drive to go round from Humula.
678. Of what river is it a tributary? Of the upper end of the Tarcutta, which goes into the Murrumbidgee above Wagga Wagga, and Nacka Nacka Creek; they said there were swarms of fish there supposed to be trout. I will probably go up during the recess and see if they are trout.
679. Do the local residents get any supply of fish from the river? They get them from those who are netting who bring them up in loads; they get from 4d. to 6d. a pound for the Murray cod and perch.
680. Speaking of the necessity for conserving the natural supply of fish in the inland rivers throughout the Colony, this Commission has made certain remarks and it is stated, in addition to other matters bearing on the question, that a closure was made at Tumut and is still maintained, notwithstanding protest by local residents against it; one purpose of such closure should be to afford a sufficient supply to the townspeople, but the Tumut residents contend that the closure there, to have been of use, should have been made from the junction of the river with the Murrumbidgee, do you believe that? Yes.
681. Where did the trout that were introduced into the rivers come from originally? From Sir Samuel Wilson's place, near Ballarat—he had hatching-beds there; I knew Lake Wendouree, at Ballarat, when it was nothing but a waste of rushes, it has improved wonderfully. When the water supply was brought into Ballarat it was allowed to flow into Lake Wendouree; it was nothing but a wild swamp for years, and now by prison labour being brought to bear upon it it has been made into a beautiful lake with plenty of islands, and is full of English perch and carp.
682. Do you think that with proper supervision and control the fisheries in your district could be so developed as to be of use not alone to the local residents, but to people living along the line? Yes, I am sure of it; in the winter season there are visitors to Tumut and Gundagai who bring the cod and perch down by the mail-train and land them quite fresh.
683. Have you read the Bill prepared by this Commission and embodied in the Report submitted to the Government? Yes.
684. Do you think if the provisions of the Bill were passed into law they would give power to the authorities to deal with questions more satisfactorily? I am quite satisfied they would; the powers provided in that Bill are quite necessary to stock our rivers with fish and to protect the fish that are naturally in them.
685. Can you give us any idea of the quantity of fish caught there during the year? I have seen when I was constantly working in Graham's Town, for five or six years, a man who used to bring a waggonette up from the river full of them, a tremendous lot, as much as he could put into it.
686. How often did that happen? There were something like 150 miners working on the two mines at Shepherd's Town and Graham's Town, Adelong Creek, and they were mostly Irish people and Roman Catholics, and they like to get fish on a Friday; this man used to come specially to provide these people with fish on that day, he used to obtain from 4d. to 6d. a pound for the fish.
687. What sort of nets do they use in the capture of the fish? I do not know the kinds of nets used.
688. Have they a purse to their nets? The draw-nets in the old country have a purse, and the mesh is much smaller in the purse.
689. You do not know whether they use that sort of net? I could not say; I have not taken any particular notice.

T. Jones, Esq., M.P. 17 Oct., 1895.

690. Do they use the long lines there? The principal fishing is with the set lines at night, and the rod. The time the fish in the river bite is usually early in the morning, or at sunset. I have fished a good deal in the Macquarie River, and have gone to look at my night-lines, and in less than half an hour I caught the fish as fast as I could take them off. I remember on one occasion my mate came down, and there was an immense large fish took one of the lines; I was hauling him in, and it was just as much as I could do; he made one splash and broke the line. I remember a sad event happening on the river. There was a shepherd's little son fishing and he fell asleep; he had tied the line on to his foot, and while he was asleep a small fish took his bait and got hooked on the line, the boy remaining asleep, and then a large fish, about 60 lb. weight, came and took the small fish, and dragged the unfortunate little fellow into the water and he was drowned. It was about 4 miles from where I was mining: we went down and searched for the boy, and found him stuck in a tree under the water, and a big fish about 60 lb. weight on the line dead. That was in the year 1861, or 1862. I might state that some few years ago there were some trout fry—some ova—sent up to Tumut which they emptied into the river, and there was never anything more seen of it again; it must have been put in to feed the other fish. They just tumbled it in out of a bucket into the river, it was the ova before it was hatched. I sent up a letter received from you gentlemen, and asked what preparation they had made to receive the trout fry; I have not received a reply to that yet, when I do get it I will send it on to you.

691. *Mr. Thompson.*] When do the Murray cod spawn? I do not know; I have seen them very small.

MARKET ACCOMMODATION AND GENERAL EVIDENCE.

TUESDAY, 24 SEPTEMBER, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Mr. Thomas Whelan, Senior Constable, New South Wales Police, No. 3 Station, Darlinghurst, sworn, and examined:—

Mr. T. Whelan. 24 Sept., 1895.

692. *President.*] Your name is Thomas Whelan, and you are a constable in the New South Wales Police Force? Yes.

693. Does the district over which you have supervision embrace all parts of Woolloomooloo? Yes; down to the water and round by Potts Point.

694. You are a plain clothes officer? Yes; since the 18th of May last.

695. How long have you been in the service? I joined in 1884.

696. Since then have you been carrying on your duties in the Darlinghurst district? No; I have been there a little over two years.

697. The latter portion of your term of office? Yes.

698. Have your duties necessitated your attendance at the Fish Market at any time? Yes; every morning, when in charge of the relief, it was my duty to see that the constable deputed to do duty in the Fish Market was properly attending to the same.

699. Have you had a good opportunity of noticing the manner in which matters are conducted at the market? Yes; I have had a very good opportunity of seeing how matters were conducted there.

700. Do you think that matters have been conducted satisfactorily? I do not think so, as far as I could see.

701. Do you think there is urgent need for reform? Yes; in many ways.

702. Have you ever watched the consignments come in to the Fish Market? No, not particularly; I have noticed several coming in, and seen them bringing fish in and putting them on to the floor on several occasions.

703. What sort of system do they usually adopt in regard to the display of the fish? They are simply brought in in baskets and thrown on to the floor.

704. Has the floor been clean on all occasions? There were parts where the fish were on which men walked about barefooted; there were many persons walking about where the fish were thrown.

705. Have you seen smoking or tobacco-chewing going on in the market? Yes; smoking, and men spitting all over the floor.

706. Have you noticed fish exposed for sale when unfit for human consumption? Yes, I have, and have made a note of it at the time—at a time when my attention was drawn to the bad fish.

707. Have you a note of the date? Yes; I have the date noted in a book I was using at the time. The first day I made a note was on Tuesday, 5th of March, 1895, when at about 8 o'clock in the morning a fish hawker named Samuel Squires, residing at Milk-street, Surry Hills, came into the Fish Market, carrying a basket of fish containing a number of fish of various sorts, and informed Mr. Baker, the auctioneer, from whom he had bought the fish he had in the basket early in the morning, that it was bad. Mr. Baker denied selling Squires the fish, and called on Mr. Augustus, the agent for the fish, to corroborate his statement, but Mr. Augustus declined to do so, and said he remembered Squires buying the fish. Squires asked that the money he had paid should be returned to him, which amounted to 4s. After a short conversation Augustus paid him 3s. The fish was green and putrid and was laid on the floor, and Squires walked away. On the same date I saw various lots of fish; the first lot of fish condemned was about a basket full. Mr. McElhone drew Mr. Seymour's attention to it, and it was condemned—it was putrid. The second lot was also condemned in the presence of Mr. McElhone, and that was putrid. The third lot was divided into sixteen small lots, it was put up for sale at 6d. per lot, and there was no buyer nor any offer. The fish was condemned by Mr. Seymour; there was about three baskets, and Charles Augustus was the agent for the fish, and was present when it was condemned. On the same date, when the sale was over, about four baskets, containing about 158 fish, were brought into the market, and

Mr. T. Whelan. 24 Sept., 1895.

and thrown on the floor. The fish was putrid and had a very offensive smell arising therefrom; Mr. Baker condemned the fish. Charles Augustus was the agent, and Mr. McElhone was also present. The fifth lot was also condemned—there was about one and a half baskets; the fish was putrid and it was condemned by Mr. Seymour; they were on the floor and exposed for sale. On Friday, the 8th March, the same year, a fish hawker named Edward Doyle, residing at No. 37 Hartley-street, Balmain, bought a small lot of fish from Mr. Lynch, the auctioneer employed by the Council, and returned them to the agent, Mr. Fitzgerald, who returned him the money for them. Mr. McElhone drew Mr. Seymour's attention to them and said the fish were unfit for human food. He inspected them and ordered them to be sold; the same time the fish were putrid. On Friday, 8th March, the same year, a man named John Watts, a fish hawker, residing at No. 23 Harvey-street, bought several lots of fish from Mr. Seymour, for the sum of 1s. 9d., and after being a short time away from the market he returned and complained about being unable to sell the fish; he threw them on the floor. Mr. McElhone was present, and I drew Mr. Seymour's attention to the fish myself. He examined them and said they were good. Several of the fish were picked out of the lot and handed to the agent for the purpose of being cooked and sent to the City Council to allow the aldermen to see them. These are the only notes I made. All these fish I have mentioned were exposed on the floor for sale. I fancy of the lot spoken about Mr. John Watts, a bystander asked Mr. Seymour if he would eat the fish, and Mr. Seymour acknowledged that he would not, and the man he handed the fish over to was the agent for the fish—Antonio, I think—who has a fish shop in Market-street. I was called on at the District Court to give evidence, but on account of their making a certain date I was unable to give evidence.

708. Who is Mr. Baker? An auctioneer employed by the City Council—as far as I could see it was his duty to sell the fish.

709. How many auctioneers have you seen at the market in the morning? Mr. Seymour, Mr. Baker, and Mr. Lynch.

710. Have you seen many agents there? Mr. Fitzgerald, Augustus, Antonio, and several agents whom I do not know.

711. Do you see any necessity for these agents? I do not know; I am not in a position to say.

712. You have seen fish sold in the market on many occasions—good fish? Yes; I have seen good fish sold on many occasions, and I have seen sound fish condemned. After the sale was over, on the morning the fish was condemned, Mr. McElhone took hold of a fish and said, "Is not that a shame, there is a good fish condemned;" but the other fish were very bad, some of the worst I have ever seen in the market. You could almost smell them when you came into the market. That was lot four. That morning, after the sale was over, there were four baskets brought in, and before Mr. Baker came to them you could smell them, and he said that fish would have to be condemned. We picked several of the fish up, Mr. McElhone and myself, and they were really sound fish. It appears to me that the good and bad were mixed together.

713. That would be caused by bringing fish out of the cool chamber—fish stored there the day before—and mixing them with fish that had arrived that morning? I was of that opinion at the time, as the fish picked up there were really first-class fish, fit for any person to eat.

714. In regard to the storage of surplus fish not sold, do you think they would be likely to go bad when they get restored to their normal condition again—that the deterioration would be arrested when they went into the cooling-chamber; but afterwards the deterioration would continue? I think so.

715. And you think that accounts for a lot of the fish that is bad and sold to the public? There is no doubt that is the cause of it—being placed in the chamber for a couple of days, and then brought out—when they get into the open air they begin to decompose at the point they left off.

716. Do you think, in comparison with the price the public have to pay for fresh fish, the fishermen get fair remuneration for their catches? I do not think they do; as far as I can see I think the thing is badly conducted all through. I think if the fishermen were allowed to sell their own fish they would get more for their catches.

717. Have any cases come under your notice where fishermen have complained of their fish having been stolen in transit, and at the Woolloomooloo Market? I never heard them complaining; I have heard of men losing fish after it has been placed on the floor, but not losing fish in transit. It has never been brought under my notice. It may have happened.

718. As to the unsatisfactory manner in which the fish are displayed, do you think an improvement would be made by having raised tables, would that be an improvement in the right direction? There is no doubt about it, it would prevent people from walking on the fish, and from spitting on them. I have seen men with a great chew of tobacco spit about the floor and walk on the fish repeatedly. In fact when they are gathering round they start in the middle of a lot of fish and kick them about, and that is how the fish get stolen. The tables would also give a man a chance of seeing what he was buying.

719. In regard to the sale of fish generally, have you ever noticed that under-sized fish has been sold? I do remember seeing under-sized fish there; I have seen Mr. Seymour condemn two or three little lots of very small fish. I saw him go round on one occasion picking out the small fish and condemning them.

720. As to the operations of the agents and the hawkers at the market, in regard to the cleaning and gutting of the fish, are they conducted in a satisfactory manner? I have not taken much notice of how they clean the fish.

721. Where do they get the supply of water from? I am not in a position to say where they get their water; of course I have heard them saying that it came out of Woolloomooloo Bay, but I am not in a position to prove that.

722. Are you aware of a case, heard in the District Court, where an agent named Augustus sued Mr. McElhone for damages for slander? Yes, I was supœnaed by Mr. McElhone to give evidence, but as I was not present I gave no evidence.

723. Are you aware what the result of that case was? Yes, a verdict was given for the defendant.

724. Mr. McElhone stated practically what you have stated to the Commissioners to-day? Yes, that is so.

725. Do you know if the City Council have taken any action with a view of instituting reform at the market? I have seen several posters about the Fish Market at Woolloomooloo, calling the attention of the fishermen to the fact that there was an inquiry being held at the Town-hall, but I have not been called upon to give evidence.

Mr. T. Whelan. 24 Sept., 1895.

726. Is the market properly situated for a fish market? If it were more central it would be better for everybody.
727. You think the market should be where access could be gained by rail, road, and water? Yes; at the railway the fish is thrown into the carts, and then when they come to the market they catch hold of them and throw them out, and they get bruised and knocked about.
728. Is Mr. Seymour at present in charge at Woolloomooloo Market? I have not been there since I have been doing plain clothes duty; I never come out until half-past nine and cannot say if he is employed there at present.
729. Do you think it would be a good thing to establish auxiliary markets in the different suburbs for the local supply of fish? Yes, it would.
730. In regard to the matter of sales which take place at Woolloomooloo, do you think it would be a good idea to have more than the one sale a day there? I think it would be a good thing to have a person there to sell the fish whenever the fishermen bring it in, or to have two sales a day.
731. Under the present system, if a consignment arrives too late for the morning sale it has to be put into the ice-house, or held over until the next morning sale? Yes.
732. *Mr. Thompson.*] Considering our summer temperature, would it not be preferable to have the market open the whole day? Yes; the whole of the day, so that any person who had fish could dispose of it immediately after it was caught.
733. Are you aware that Mr. Seymour is an inspector under the Fisheries Department? I have been told so. I heard Mr. McElhone say so at the Court.
734. One of his duties would be to see that the small-sized fish are not sold? Yes.
735. Do you not think he attends to that duty diligently? I do not think he does.
736. Have you ever seen any other fisheries inspectors looking after small fish? I do not know any of the fisheries inspectors at all; I do not ever remember seeing them. I would like to draw your attention to one particular occasion—I think it was the Monday after last Good Friday. There was a quantity of fish—somewhere about sixty-six baskets I should say—it was a consignment from the Manning River, and the whole of the consignment was received into the market; it was in a very bad state. The agent, if I remember correctly, was Augustus. This fish was thrown on the floor, as it seemed to me, simply for the purpose of the Corporation people to carry it away. It was something horrible—so bad they did not inspect it at all. A great heap, about three cart-loads, was thrown into the market, and made the whole place unbearable.
737. Do you think Augustus did this on purpose to get rid of a bad article? I think so; I understood no putrid fish was to be placed on the floor at all,
738. Is there no one there to examine the fish? I think Mr. Seymour's duty is to see to that.
739. What becomes of the condemned fish? I think there are men employed by the Council who cart it away to the tip out at Moore Park. I know on this particular morning there were a good many people obliged to leave the market through the stench arising from these fish.
740. Are the fish subjected to any process for the purpose of disinfecting them—are they sprinkled with carbolic acid? Yes; there is some fluid thrown over the fish condemned in the market. I was looking over the books some time ago; I think I saw it laid down that no person was to place putrid fish on the floor.
741. In your opinion then, the officers of the Corporation do not take steps to enforce this law? No, I think not. If you had a copy of the Act I think you would see that there is a clause in it to that effect. I have often thought, with respect to the complaints about the fish being allowed to be put on the floor for sale, that if the instructions were followed out putrid fish would not be placed in the market at all.
742. Is there any preference given to purchasers of fish? I have heard a great deal of talk about it, and to the effect that Chinnery always gets the preference.
743. Are you aware whether there is any foundation for the statement? No; Chinnery is a man who does a large business; he keeps very good fish. As for there being anything between him and Seymour, I am not in a position to say. When certain matters were brought under my notice I made a note of them, so that I might be prepared to give evidence if required.
744. *President.*] Are you aware whether it is a fact that when fish come in the agents pick out the finest fish and send them away to the country on their own account, and sell the smaller fish at the market and charge their constituents at the rate they get for the smaller fish? I have been told that they have sent the best of the fish away to the country.
745. They send the larger fish away and sell the smaller fish by auction, and send in returns to their constituents based on the price they get for the smaller fish? I cannot say. The best fish are sent away. That is all I know.

Mr. Josias Dawe, Senior-Constable, New South Wales Police, No. 3 Station, Darlinghurst, sworn and examined:—

Mr. J. Dawe. 24 Sept., 1895.

746. *President.*] Your name is Josias Dawe, and you are a constable in the New South Wales Police Force? Yes.
747. How long have you been in the Darlinghurst district? I think it is nine years last July—within a month, at any rate.
748. How long have you been in the service? A little over nine years.
749. Are you still stationed at No. 3 Station? Yes.
750. Does your district embrace Woolloomooloo and the foreshores? Yes.
751. During the time you have been stationed there have you had a good opportunity of observing the manner in which business is conducted at the Woolloomooloo Fish Market? Yes.
752. Do you think, from your observations, there is room for reform? Yes, very largely. In many ways matters are conducted very badly I think.
753. Do you think, in the first instance, that the market is suitably and conveniently situated? Well, I think there should be benches.
754. I mean the market itself, is it centrally situated? Yes, very conveniently.
755. Do you think it would be better to have a market that could be reached by rail, road, and water Yes; that would be beneficial.

Mr. J. Dawe. 24 Sept., 1895.

756. Have you noticed how the greater quantity of fish comes to the market, whether by water or rail? That all depends. Sometimes a boat comes in bringing a good quantity of fish; at other times boats do not come in, and the fish come by cart from the Redfern railway station, or from Botany and Darling Harbour wharfs.
757. You are not prepared to say which way the greater quantity comes? No; I cannot say.
758. Have you attended any of the fish sales in the market? Hundreds, I suppose.
759. Have these sales been conducted with satisfaction to the fishermen and the agents? No; I do not think they have.
760. Do you think the fisherman obtains a fair price for the product of his labour, compared with the price the general public has to pay for fish? No; I do not think they do.
761. Do you think the arrangements for the sale of fish at the market could be much improved upon? Yes.
762. Do you think there is any absolute necessity for the retention of the agents in the matter? I think if the fishermen had someone representing them it would be better for them. The agents do not seem to take sufficient interest in the matter. If they had a man to represent themselves I think it would be better for them.
763. Would you allow the fishermen to come into closer contact with the general public? Yes.
764. Have you ever heard any complaints on the part of the fishermen of their fish having been stolen either in transit or at the market? I cannot say that I have. I cannot say exactly where they have complained of them being stolen.
765. Have any cases come under your notice where people have been caught stealing fish? When I was in charge of the watch-house there was a man locked up for stealing fish, I believe.
766. Would you mind describing the manner in which the fish are sold, from the time they reach the agent's hands to the time they leave the market? The fish are brought in in baskets, and they are placed on the ground in little heaps in a space marked out in chalk, and the names of the owners of the fish written down, and they are sold by the auctioneer; but if a private individual wants to bid for a heap of fish he would have a bad chance of getting them, as if the large buyers bid they would be knocked down to them.
767. You think undue preference is given to the large buyers? I am certain of it; I have frequently seen private buyers trying to get a heap of fish, and it is almost impossible unless the fish are bad.
768. You say the fish are thrown on the floor in heaps;—does that render them liable to be trodden upon, and spat upon? Yes; it is impossible to walk through the market on a busy morning without walking on the fish. I have seen people spit on the fish when chewing tobacco.
769. You think some improvement should be made in regard to the display of the fish? Yes.
770. Would you suggest raised tables be established? Yes, if they only raised them 3 or 4 inches from the ground and made little paths so that the people could walk up and down, it would be a great advantage. You could not make a path between every heap of fish, but if they had tables from one end to the ot h, and left a space so that they could see the fish, and see what they were buying, and be kept clean, it would be a great advantage.
771. Have you ever seen putrid fish sold in the market? Yes.
772. Do you think some of that fish has been consumed by the general public? I have not seen them sold by the hawkers to the public. I remember on last Good Friday morning there was a gentleman I know very well who bought a heap of fish. I was standing outside, and he asked me if I would have a couple for breakfast. I said "No, and don't you eat them either." He told me he had bought them from Seymour. I said, "Take them back to Mr. Seymour." He said he would ask some of the fishermen's opinion about them. They told him that they were very aged. He took them back to Seymour and he told his man to give the purchaser back his money. Afterwards I bought a lot of fish for him which were very good—a lot of bream. There is no doubt that in the summer time every morning there is fish sold I would not like to eat.
773. Do you think they are fish that come direct from the fishing grounds, or are they fish that have been placed in the cooling chamber? Some that I have seen coming out of the cool chamber are not very good, and I have seen others brought in from the Cape Hawke boat very bad.
774. I suppose you have noticed consignments that have come from distant fishing grounds? I have seen the fish, but have not noticed particularly where they have come from.
775. Do you think, if the general public could be assured of the freshness of the fish sold, there would be a greater consumption? Yes; I am sure there would.
776. Are you of opinion that if the prejudice against the use of fish, created by the fact of people treading and spitting on the fish, were removed, that commodity would be more extensively indulged in? Yes; I think it would.
777. Do you think there is sufficient supervision exercised in the market in respect to the sale of sound and fresh fish, and also respecting undersized fish? No; I think the system they have is altogether bad. In my opinion the men holding positions there do not seem to be fit for their posts at all. They do not seem to have the minds of men—there is too much of the crawler about them. There should be a man to see the fish as they come in, who would not cringe to the big buyers, fishermen, or any other person, who would do what he thought was right conscientiously, and we might then have good fish; but as they go on now it is impossible to get good fish. There is an old talent that has been there some time, and they seem to work into one anothers' hands—a sort of ring.
778. Have you ever noticed or heard that the agents when they have received consignments of fish, have selected the best of those fish and sent them away to the country, and after having sold the balance have sent returns back to the fishermen based on the prices realised for the smaller fish? No; we would not be likely to hear anything about that if it were done. There is no doubt the fishermen are served very badly under the present system.
779. Are the cooling chambers extensively used? Yes, a great deal; a quantity of fish goes in there.
780. Is the storing of the fish in the cool chambers owing to the fact that they cannot be sold, or that they arrive too late for sale in the morning? They have different objects in putting them into the cool chamber; for instance, if there were a large quantity of fish in this morning and they were bringing a low figure, they would put them into the chamber until to-morrow, and sell them to-morrow, and get a better price for them. A few days previously to each Friday—that being a great fish day—they put them in the cool house, bringing them out for sale on the Friday.

781.

Mr. J. Dawe. 24 Sept., 1895.

781. The people who use the cool chamber are not the fishermen, are they? I could not say; the agents might put them into the cooling chamber if they thought they would bring a low price.
782. It is quite possible fish that are decomposing are placed in these cooling chambers, is it not? I have repeatedly seen them coming out in such a condition that I would not like to eat them. I have not seen much of them when they were going in.
783. Do you remember a case in the District Court in which Mr. Augustus, an agent, figured as plaintiff and Mr. McElhone as defendant? Yes.
784. Mr. McElhone, I believe, made some charges against the agent of selling putrid fish? Yes.
785. Do you remember the result of that case? Yes.
786. What was it? The case was dismissed.
787. Do you know whether the City Council have been making any inquiries in regard to the conduct of the market? I have heard so.
788. Have they not called upon you to give evidence? No. I gave evidence at the District Court, in the case Augustus v. McElhone.
789. Do you think it would be a good idea to have auxiliary markets established in the suburbs for the distribution of fish? I think a central market would be better; if they had a good market carried on properly—a central market—it would be as good a thing as they could have.
790. Do you approve of the means of distribution that we have at the present time, by the agency of hawkers. Do you think they are a proper class of men, as a rule, to do this business? Well, the hawkers as a class are about the lowest kind of people we have in Sydney, most of them being of the larrikin stamp, and other undesirable characters; and the reason most of them take to hawking is to keep out of the hands of the police.
791. When they have the fish in their carts and baskets ready for distribution, do they place wet sacks or bags over them to keep them fresh? Yes; I have seen them place wet bags over them.
792. In regard to the sales which take place at the market, do you think it would be an improvement to have more than the one sale a day? Well, no; I do not think it would.
793. Supposing consignments of fish arrive too late for the morning sale, would it not be a good idea to give an opportunity for the sale of that fish immediately they arrive? People as a rule do not eat fish in the evening, but at breakfast. I do not know whether it would take early in the afternoon; ladies, as a rule, like to change their dresses in the afternoon—they do not care about cleaning fish at that time of the day.
794. Looking at it from the fisherman's standpoint, do you think it would be a good thing to offer him that facility, if the fish could be disposed of, giving him the opportunity of disposing of his fish at any time during the day when they arrive to prevent the fish going bad? Yes, a good idea to give him a chance of disposing of them at any time if he was going to sell them himself, but not to keep a staff and the auctioneers there.
795. If you had one man to perform the duties, there would not be any further charge for his carrying out the duty of selling at any time? I think the mistake is in having a man to act as auctioneer and inspector. In my opinion, there should be a man appointed by the Government who would examine the fish as it comes in, and he should have nothing to do with the sale, but he should condemn the fish if it was not fit for human food.
796. *Mr. Thompson.*] Do you think a system of gutting fish before they come to the market would be an improvement? Yes, certainly it would, they would keep so much better.
797. Do you think the public would take to that system? Yes, I do. The heads should not be taken off the fish, only gut them. In Cornwall, great numbers of fish are sent to the London market; we used to gut them there; I was brought up in the business, and connected with it for a number of years.
798. Is it not the general practice to gut fish in the old country when sent from distant fishing grounds? We used to do so.
799. And you found that practice generally obtains in England? Yes, as far as I know, the fish keep very much better.
800. And considering that the climate here is so very detrimental to the preservation of fish food, you think it would be very much more desirable to adopt that practice here? It would be better every way.
801. Do you think the middleman or agent is a necessity in the market? If you could get a man who would do justice to the fishermen it would be all right, but nine out of every ten of the agents I have seen in the Woolloomoolloo market are men that I would not like to trust with sixpence.
802. What becomes of the fish that are condemned? They are carted away.
803. Are they subjected to any process? A man goes round the market with a can containing disinfectant, and afterwards they are taken away in a cart.
804. Are the heaps of fish sufficiently far apart when this disinfecting process is being carried out to ensure that none of the carbolic acid, or whatever disinfectant is employed, goes on to the sound fish? It might accidentally get on to the sound fish.
805. Is it not very difficult to cleanse the floor thoroughly from the effect of the disinfectant? Yes, you can always smell it.
806. You think the fish should be examined before they enter the market? I think every basket should be examined before the fish are put on the floor.
807. There are certain portions of the market to which fish are brought for examination, and that should be done by an inspector and not by the auctioneer, whose duties should be entirely separate? Yes.
808. You are aware that Mr. Seymour is an Inspector of Fisheries under the Fisheries Department and it would be his duty to seize all small fish below the market weight? Yes.
809. Does he attend to that duty? I never saw him take out any small fish.
810. Have you ever seen any of the other inspectors of the Fisheries Department attending to their duties? I do not know them. I have seen Mr. Mulhall condemn a lot of small fish; I do not know the other inspectors. They have been there looking after the small fish and their other duties and I have not seen them. It is said that some of the fish is given to friends by agents.
811. In that case the fishermen are deprived of a portion of what should be the proceeds of the sale of their fish? Fishermen are victimised in every possible way.
812. Is this practice largely indulged in? I believe it is.

WEDNESDAY.

WEDNESDAY, 25 SEPTEMBER, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

John McElhone, Esq., M.P., sworn and examined:—

J. McElhone, Esq., M.P. 25 Sept., 1895.

813. *President.*] Your name is John McElhone, and you are a Member of the Legislative Assembly? Yes.
814. Where do you reside? In Macleay-street, Sydney.
815. This Commission is anxious to promote the development of the fisheries, and they can see as well as anyone else who has devoted any study to the question, that in order to make their proposals a success, it will be necessary to have important alterations made in regard to the arrangements at present in vogue at the Woolloomooloo Market. Have you had an opportunity of judging how matters are carried on there? A few months ago I had a very good opportunity of judging how matters were conducted there. I went specially down to the market, on account of a friend of mine having been threatened with the watch-house for claiming some fish that were knocked down to Mr. Chinnery, and I attended the market in both the months of February and March, until eventually an action was brought against me in the Metropolitan District Court for slander at the instance of an agent named Augustus.
816. You attended some of the morning sales? I attended the sales morning after morning; I was there and inspected the fish, as to their condition, morning after morning.
817. Can you tell us whether you discovered fish in an unfit state for human consumption? In the latter end of the month of February, on two occasions, and in the month of March, on several days, there were lots of fish that were bad, rotten, and in a filthy condition, and utterly unfit for human food; in fact they were unfit to give to a pig, and those fish were sold to fish dealers and others, and some of the fish sold was absolutely as rotten as it could be. In many cases I called the attention of the Inspectors to them, and, as a rule, the people that had bought fish got their money back again.
818. Were the fish thrown on the floor in heaps? Yes, in little heaps, in rows east and west, with a small space of some 5 or 6 inches between them.
819. Do you approve of the existing system of displaying the fish? It could not be worse. You can imagine a market full of fish, and men spitting about, and chewing tobacco and spitting the tobacco juice all over the floor, treading on the fish—men walking about barefooted, and other objectionable occurrences. The people crowd round the man who is selling the fish, and the Inspectors, instead of looking after their business, stand about yarning; then they ring a bell and commence selling. On account of the fish being on the floor and the crowd round the auctioneer, it is an utter impossibility to see what they are selling. I saw fish offered for sale, principally by Augustus, as rotten as they could be. I called Seymour's attention to fish, privately by himself, that was utterly unfit for human food. They were fairly rotten, and were bought by people and brought back again. Stanley saw those fish, and Brown; they were both standing by. The fish were put in the trough and brought out again and sold. The good fish are knocked down to Chinnery, lot after lot; they blow a whistle to call Chinnery's attention to them, to call him or his men up, and they buy the fish. If you call upon a Mr. Taylor to give evidence before your Commission, and question him on the subject, you will find that the men are afraid to bid against Chinnery. It is a common custom of Lynch's and others to call the police to give men in charge that bid against Chinnery. I had witnesses to prove that garfish were not allowed to be sold privately; but when Seymour came he sold them himself; he knocked them down at 1s. 3d. You cannot get behind Chinnery and others.
820. Do you think it would be an improvement to have raised tables? I am sure it would; you could then stop them being spat upon and trodden upon, and you would also see what you were buying. I recommend that the fish be placed on raised stands or tables as in the Melbourne market. These stands are made of slate, and the market is paved with asphalt, and the walls lined with tiles. Then again, as to the water they use in the Woolloomooloo Markets, and which the fish are cleaned in, this water is drawn from the bay just near the baths. The whole harbour of Sydney is one mass of sewage matter, and this is the water that is used for the purpose of cleaning the fish. You can see the filth which accumulates round the baths in the bay.
821. Comparing the prices the general public have to pay for fish with those received by the fisherman, do you think the fisherman gets a fair price? No, they cannot possibly do so, the fish are knocked down to Chinnery and others, and they cannot dispute it; they do not get one-fifth of the price we have to pay for them. The large buyers get the best of the fish, and what they won't buy is knocked down to the poorer people. I have handled fish there quite soft, and as different as possible from the fresh fish, which one cannot make any mistake about, colour and all appearance of freshness gone, and the smell would knock you down. I saw a lot of fish sold in February; I think Brown was with me, and I spoke pretty loud about the fish, and there was a man there who called Lynch on one side; there was a large quantity of fish as rotten as they could well be, and when Lynch came to sell I said, "You had better not sell them; they are rotten;" he said, "Who says so?" and called Seymour, and he asked what was the matter; I said the fish were rotten; he replied they were not; I said, "They are absolutely rotten and totally unfit for human food." They called some men up and picked the best out and sold them. A man named Cabban bought the pick of these fish, thinking that if they were picked they would be all right; I saw him shortly afterwards putting his fish in the freezing chamber. Alderman Penny was there and he looked at the fish; I said to him the fish were rotten, and you could hardly bear the smell; Alderman Penny vomited all over the floor. Cabban was told to say he did not buy his fish from Augustus; he returned his fish and received his money back. Seymour admitted that he had sold rotten fish, and gave his reason for doing so. I said to him, "Dick, I thought you were there to prevent the sale of rotten fish," and he said, "So I am." He admitted to the Judge the reason was that the fish sold were a mixed lot, the good fish being at the top and the bad at the bottom. They swore all the fish were inspected and were good. There was no inspection at all; they were all yarning about the market; Lynch, Baker, and Seymour. A bell is rung and they commence selling; the mob stand round, and there

J. McElhone, Esq., M.P. 25 Sept., 1895.

is no inspection at all. They swore the fish were fresh when they came into the market at 5 o'clock in the morning, and they were rotten at 6 o'clock. They said it was the floor that made them rotten after being in the market for an hour; it was the concrete floor that turned them rotten. I won't allow a fish in my house ever since I saw the fish washed in the filthy sewage matter. Brown sometimes buys fish for me; harbour fish, and cleans them, and they are all right then. In the winter time I saw a lot of schnapper, and after a time they were sold, and the man took them to the trough and cleaned and gutted them, and they were condemned and he got his money back; this was in the winter, and if fish is bad in the winter what can be expected in the summer time. Fish are caught at Cape Hawke and put in boxes and stuck on the boats for forty-eight hours or three days. You can imagine fish coming from the Clarence packed in boxes. What sort of condition must they be in? The Board of Health say they have no power to deal with these matters. I have written to various people, Mr. Reid and Mr. Brunker, and they say they have no power to deal with it. There is the most infernal rascality going on among the market officials. I have had any number of complaints from men and women of the manner in which they are treated, many of them being poor people, and they cannot afford to make bad speculations, and the loss to them involved in the purchase of fish which they cannot retail is a serious matter. I was told Seymour had a whip, and he used to flog the people, and then after that was stopped he took to using a big stick to poke the people round. The most filthy language is used to the poor fishermen, but they dare not say anything about it. This system of terrorism drove some of them to the Redfern Market. Taylor will tell you all about these abuses if you ask him.

822. Have you ever heard any of the fishermen complaining of their consignments being reduced? Yes; very much. They are picked over and the best taken out. A man cannot conceive the reign of terror that was carried on by Seymour over the unfortunate fishermen. I was informed he has condemned live fish. The officials of the market and friends of the auctioneers get their fish for nothing. You may see, especially on Friday mornings, you may see them go away with little baskets of fish, taking them round to aldermen and others.

823. Were you called upon to give evidence before the City Council? I was; and I said that I was prepared to defend an action for every word I said.

824. Do you know if they have taken any steps to bring about the necessary reform? None at all that I am aware of; the people got tired of going up to give evidence. There is no redress at all for the unfortunate men against Seymour. His word is like the laws of the Medes and Persians, and the fishermen can do nothing against him. There is a system of blackmailing going on. I have moved for a Select Committee to get at the bottom of the ring business that exists; they favour the large buyers. Some of the fishermen have tried to break down this ring business, but as soon as they begin to complain they are threatened with being turned out of the market. There is an old talent that has held sway at the market for a long time. They want sweeping out; they work into one another's hands.

825. In regard to the sale of fish, would you advocate the opening of the market all day so that fish might be sold? What I advocated was this—let the inspectors be on a similar footing to the Inspectors of Nuisances, and let the fish be inspected outside the market, and allow nothing but good fish to come into the market, and take care that a good supply of fresh water is used, and let the fishermen sell their own fish in the market. Let the inspectors condemn anything that is bad outside the market and the fishermen sell their fish inside. There are numbers of men who dare not go into the market at all. This man Seymour has such a hold over them that they will not go into the market. Taylor will give you particulars if you ask him. The fish are put into the ice-house, and they are rotten before they go in; the freezing makes them hard, and as soon as they are taken out and they thaw they almost tumble to pieces. On one of the mornings I was there I saw a lot of fish with a filthy look about them, and I asked Mr. Smyth to buy these fish for me. He said, "They are rotten," and I said, "That is why I want to buy them—I want to show them to the Mayor." He said, "I don't want to get into any row." The heaps were pretty nearly all the same; my friend Brown stood by, and Constable Byers, of Parramatta, was also standing by. We were all waiting by the fish. Lynch stood near at hand and knocked them down to Chinnery, and I saw Chinnery taking those fish away. I said, "Lynch, you have sold rotten fish," and I said to the constable, "Seize those fish; they are rotten." Chinnery said, "I dare you to touch them; I have bought them," and he swore those fish were perfectly good. Byers and I and Brown swore they were rotten; they were bought as a plant so that I should not get hold of them, yet this was one of the lots for which the man brought an action against me for saying they were rotten. Instead of selling one lot, they sold a whole square of them; Constable Byers will prove this, and it is a common occurrence morning after morning. Augustus had fully one-fourth of the market to himself, and for four or five mornings running there was hardly a single fish fit for human consumption. It was a difficult matter for me to keep myself from being sick.

826. It is quite likely this has been going on for years before you took notice of it? Yes; for years nothing could be worse nor more filthy than the doings at the market. The Board of Health say they are powerless in the matter, although I have pointed out that they take steps in respect to cattle, and I have told them they are allowing rotten fish to be sold every day. I interviewed Mr. Brunker, and wrote to the Premier. Mr. Reid advised a prosecution under the Adulteration of Foods Act. For several mornings in the latter end of February and in March, when the weather was muggy, there was scarcely one really good fish with its proper colour and sweet in the market. And the worst part of it is the cruel way the fishermen are treated by Seymour and the other fellows. People are afraid to bid against the favoured ones, and on account of the way the matters are conducted there people want to be well off to buy fish at the market. You cannot get fish,—it would take 3s. or 4s. to pay for a decent meal. Seymour has asked Byers to take me in charge several times because I have been looking at and handling these rotten fish. I have been told by Seymour to lay fish down, and he has called a policeman to give me in charge. One morning a poor woman bought a fish as rotten as it well could be, and she brought it to me, and I said, "I will get you your money back." I went to Baker and said, "Look at this fish; give this woman her money back." You really do not know what you are buying. In some cases the people do get their money back, but the whole system is something infamous and filthy in every way that it can possibly be. There is no room between the fish; the heaps are nearly touching each other, with no passage between,—the whole market is alike. The fish is trampled upon and spat upon; if the inspectors did their duty it would not be allowed. The inspectors of fish and nuisances exercise a regular reign of terror over the people.

827.

827. As to the site of the present market? The site is right enough.
828. Do you think, considering the great supply of fish that comes by rail, it would be better to have a centrally-established market accessible by rail, road, and water? Yes; of course it would be.
829. Instead of having a market conducted by municipal authorities, would it be better to have it under Government control? I am certain it would; kick the Corporation out altogether. The less you handle the fish the better. If you can get a site convenient for rail, road, and water communication so much the better.
830. Have you ever heard that fish are pilfered from the carts at the market? I do not know that—very likely they would be. Some of the fishermen have their carts watched; complaints are bitter about fish being stolen about the markets. Taylor put a lot of schnapper into the ice-house, and he got a receipt for them, and when he went to get his fish there were so many short, and he afterwards picked up a receipt showing that an engineman named Beers was supplying men with fish, this account or receipt showing where Beers had been supplying people with fish up the country. They appear to do simply as they like, and the poor men dare not say a word or else Seymour would not allow them in the market at all. It is a well-known fact that fish were stolen wholesale in the market. As things are carried on nothing could be worse, nothing more filthy and vile;—I have seen men spitting and blowing their noses on the floor, and I have heard people say that they have seen dogs urinating on the floor. I generally get up at 5 o'clock in the morning to see the early sale, and they swore they were inspected before they were offered for sale; I swore they were never inspected at all. What I saw at the market has completely turned me against eating fish, and many other gentlemen I know have the same feelings about the matter. Respecting the water the fish are cleaned with—the ebb-tide brings all the filth down into the harbour from Parramatta and other places, and the smell is sufficient to knock you down; you can see the filth coming down with the ebb-tide into the baths. People ought to go and see the state of the markets for themselves, especially now the weather is getting a little warmer.
831. Are matters any better since your action? Not a bit, they are just as bad as ever; you can imagine if rotten fish is sold in the depth of the winter what it will be in the summer time. They were told about what I said about the fish being rotten, and they were put on one side and dealt with later on. It is useless for others to bid against Chinnery; suppose Chinnery bids 5s. and I bid 6s. they would be knocked down to Chinnery, and the next lot to Playfair, and so on until they get all they want. I have seen Lynch, Seymour, and Baker, when a lot of fish has been knocked down to Chinnery, blow a whistle to call his attention that fish was knocked down to him.
832. *Mr. Thompson.*] Have you gone into the question of transit at all, or the suitableness of the baskets fish is conveyed in? No; I believe they are brought down in the old country in boxes and that special trains are run on Sundays for the conveyance of fish. It is a question if the boxes are large whether the weight does not injure the fish, the fish at the top pressing too heavily on those at the bottom.
833. Would you favour the gutting of fish in the waters where they are caught? I think it would be an improvement for the same reason that if you kill a bullock and let him lie with his offal he will go bad very much quicker than if the gut is taken out of him. It stands to reason that if the fish were gutted they would keep much better. I think it would be very beneficial. Certainly not gut and clean them in the filthy water they are in the habit of using now.
834. Have you read our Report? No, I have not; I gave my copy of the Report to Mr. Brown so that he might read it up.

J. McElhone, Esq., M.P. 25 Sept., 1895.

Mr. John Thomas Taylor, fisherman, Woolloomooloo, sworn and examined:—

835. *President.*] What is your name? John Thomas Taylor.
835½. What are you by profession? A fisherman.
836. How long have you followed the profession of a fisherman? It will be seven years in December next.
837. Are you directly connected with the industry? Yes, I am, and have been making my living at it for the last seven years, both deep-sea and net fishing.
838. Where have you carried on your operations? From Cape Hawke down to Botany.
839. Do you superintend the sale of your own fish? I have been doing so; sometimes I have employed a man there. Lately I have been in the market myself, for the last two or three years.
840. Have you entrusted your consignments to agents at any time to sell for you? I have.
841. Did you find your transactions satisfactory? So far as the agents were concerned, but not so far as the fish being delivered from the railway station to the markets.
842. Something occurred that was an injury to you? Yes, the loss of fish.
843. You think they were stolen? I am sure of it; I have had them stolen off the train I have been on myself, between the Hawkesbury and Sydney.
844. In sending your fish to market, do you always see that they are fresh? Yes; I always endeavour to send them as fresh as possible.
845. Have you ever had fish condemned in the market? I have; that has been the two days' fish, when we could not make the port at night, and could not catch a train to send them on by.
846. Have you ever had any fish that could be said to be fresh condemned? I have.
847. Have you had an opportunity of witnessing the operations at the market? Every opportunity.
848. Have you ever seen unsound fish sold there? No later than this morning fish was sold there that was not fit to be given to a pig—fish that had been in the ice-house two or three times.
849. Do you think the inspectors or auctioneers are aware of this? Certainly they are; there are favourites in the market—some men can do as they please.
850. Do you think there is a ring in existence there? I am certain that there is.
851. Do you think the fisherman gets a fair amount for the product of his labour, compared with what the public have to pay? There are certain members of that market that never need to look, they simply have to raise their hats and they can get what they want.
852. There appears to be a reign of terrorism existing? There has been for the last two years, and when I started to break it they began to seize my fish. Seymour threatened to have me put out of the market because I wanted to break this ring. There was no chance of competing against Chinnery; I can fetch fifty buyers to prove what I say is true. I have seen Seymour pass through the market and pass fish on the floor that Baker has refused to sell on account of their being undersized. The fish belonged to Duncan,

Mr. J. T. Taylor. 25 Sept., 1895.

Mr. J. T. Taylor. 25 Sept., 1895.

thirty or forty lots of trumpeter whiting. They were passed by Seymour as being full-sized and up to weight, and sold by Seymour, and after they were sold they were seized by Baker as being undersized, and they were shovelled up and taken away, and at the same time the same sort of fish were being sold at the opposite side of the market.

853. Have you ever heard of officials and others getting their fish for nothing? They have got them for nothing.

854. Do you think there is truth in the statement that the fishermen are robbed right and left? They are; there is no doubt about it. I have had to pay a man to sit on my cart to see that the fish were all right.

855. Do you think there is need for reform in connection with the market? I think the whole staff in the market should be put out, and that Seymour has no right to be an inspector, as he does not give fair play. If he sees one small fish in a lot, he whistles for the man to take them away. He has weighed fish when Mulhall has said they were up to weight.

856. Do you approve of the way in which the fish are exhibited for sale? No, I do not; they are stolen, trodden on, and you see men spitting chews of tobacco on the floor, and when it is emptied they spit over it again when it is being washed down.

857. Do you think the system of raised tables would be better? Yes; the accommodation at the Redfern market is much superior to that at Woolloomooloo.

858. Would you advocate that the fisherman should be allowed to sell his own fish? Yes.

859. Would you approve of a central market being established where it would be accessible by rail, road, and water? Certainly; somewhere round by Darling Harbour would be better.

860. And would you have that institution carried on under Governmental control, and do away with the municipal authority in connection with the market altogether? Yes; there is too much favour shown under the present system. A friend of the auctioneers will go down, and there may be a choice lot of fish not big enough for a heap, and they say, "Here you are, sir; a shilling," which lot would bring 3s. or 4s. if sold by auction.

861. So that you maintain there is great favouritism shown at the Woolloomoolo Market? I do indeed.

862. Have you ever met Mr. McElhone at the market? I have, and I gave evidence in the case tried at the Metropolitan District Court. I was in the market on the morning when he raised the question as to the fish being fit to eat; I was present on that occasion.

863. Actually, although it is said Lynch knew the fish were rotten, he was trying to sell them? Yes; at 6d. per lot.

864. And if sold they would have gone into human consumption? Some were sold and brought back; when they took them out to wash them they found they were rotten.

865. Have you noticed Mr. McElhone there on any other occasions? Yes, on several occasions. The market worked fairly well for a little while after Mr. McElhone's action in the matter, but has gone back to its old form again, there being no one to take an interest in it.

866. As to the gutting and cleaning of the fish in the market, do you think matters are satisfactory in this respect? With the exception of the water. I do not know how far that comes from the Bay. It looks clear when it comes into the market.

867. Would you approve of the establishment of what might be termed auxiliary markets? Yes; that is what is wanted—some places where they would have a cool store, and where a person could get a little fresh fish at any time during the day.

868. Do you approve of the market being kept open all day for the sale of fish? Yes, I do.

869. As to the market dues, do you think they should be modified? Yes; they are excessive—1s. in the pound.

870. Are you aware that a committee of the City Council have been sitting and investigating matters in connection with the markets? Yes; I gave evidence before them. I was there three days.

871. Do you know if anything has been done? I never heard anything about it.

872. Have you ever heard of certain aldermen and other people in authority getting fish sent to them by officials of the market without payment? Yes; I know one gentleman who had some fish brought him, and he asked what the price was, and he was told, "Oh, nothing to you;" and he said, "Do not bring any more." It is a common thing to see officials away from the market on a Friday morning. They go away with little baskets of fish, and if you look the books up I do not think you will find that they bought any fish.

873. Have you used the ice-house? Yes.

874. Did you ever suffer any loss by your fish being stolen? Yes, I had schnapper stolen out of the old ice-house. I put eighty-nine schnapper in and got a receipt, and when I came for them on the Monday morning I found nine gone; this was before the new cage was put up. A man named Beer was in charge at the time. I was cautioned by Mr. Kelly to go and see if my fish were all right. I asked him why, and he told me there were some missing: I said I had a receipt. There was only the one man who had charge of the key at the time, and he was the engine-man named Beer. I afterwards wrote to the Town Council about it, and they replied that they could not do anything in the matter. I afterwards received a letter; where it came from I do not know. It contained £2, and I let the matter drop. I do not know where that letter came from, but have formed my own conclusions on the subject, and have let the matter drop. There was a little ring there who used to send fish to the country. Two of the men having a good deal to do with this ring business were Beer, already mentioned, and a man called Dutchy, or Curly Scotty. I think they are broken up now. The one was an engine driver, and the other a "bummaree."

875. Is there any truth in the statement that fishermen are robbed by the best of the fish being picked out and sent away to the country, and the balance being sold, and on the basis of what the balance brings a return is sent back to the fishermen? I cannot say that is done by the agents. There were men in the market who used to do this. I sent up thirty or forty baskets of fish from Cape Hawke, and put them in the ice-house, and Mrs. Smith saw Dutchy coming out with three or four baskets of blue-nosed whiting, and asked him who the fish belonged to. He made reply that "they belonged to some bugger named Taylor at Cape Hawke." She told me about it afterwards and said she would swear to the truth of the statement.

876. Do you use ice? Yes, when sending from Cape Hawke.

877. Does that keep them well? I have packed fish that have been eight days in the ice and they have been sold fresh. As you shoot along the lake it is best to let the fish lie on the grass and stiffen and

then

Mr. J. T. Taylor. 25 Sept., 1895.

then pack them in ice. It is the dirt and filth that spoils them. If you throw a great quantity into the boat and let them lie they naturally go bad. I have had cases expressly made for my fish for which I paid £2 10s. There is an inside box that will hold about four baskets, with sawdust between the two boxes, and they are screwed down by an iron bar along the top, keeping them air-tight, and I find that they keep well for a long time.

878. Do you think it would ensure a more ready sale if the fish were gutted? I do not see how you can manage it.

879. But if the fisherman received an advance in the price? I do not think it would do. If you had to send them by rail you would not have time to gut them, as it takes some time to gut twenty or thirty baskets of fish, and apart from this I do not think the necessary care is taken as a rule, as I have seen fishermen gutting for salting, and they cut and split the fish about anyhow. I cannot see anything better than good ice boxes or a cool chamber in the steamer if they come from a distance.

880. Is it not desirable to get rid of the conveyance of all this offal and entrails? I do not know how you would manage it. If you had well-boats they would have to go up the rivers into deep water, some places where you haul you could not get a steamer. At Cape Hawke you could not get it within 3 miles of where you land your fish.

881. Have you heard anything of the new patent discovered for preserving fish in a sound condition? No.

882. Do you think if something were discovered that would keep fish in good condition it would be a good thing for fishermen? It would; it would open up waters you cannot go near now. There is any amount of good fish south.

883. *Mr. Thompson.*] If the fishermen sold their own fish that would break up the ring, would it not? The reason that they do not sell their own fish is that they would have to credit some people till the following morning, and they could not wait.

884. We do not mean an agent but a partner desirous of getting as good a price as yourselves? That would break up the ring. The only thing is about getting the cash. If you sell them to an agent he is not allowed to sell them.

885. We know that? I am not allowed to sell a fish on my floor. I am threatened that I will be summoned if a heap is missing; but on the opposite side they are allowed to do it.

886. You would recommend it? Yes; let every man sell his own fish.

887. You mentioned several malpractices on the part of the officials? Yes; that is why they hunted me out of the market, through trying to break this ring up. I have reported it to Seymour and Baker.

888. Have you reported it to the Town Hall officials? Yes; I brought one of them, an auctioneer, before the Mayor.

889. What was the result? They asked if I wished him dismissed and I said I wanted him kept in his place.

890. Are you a licensed fisherman? Yes.

891. Are the fish brought straight away from the carts into the market, or are they inspected first? They are brought direct to the market, and supposed to be inspected there.

892. Are the market officials supposed to inspect the fish before submitting them for sale? Yes.

893. Then they neglect that duty? You will sometimes see Mr. Seymour walk round the market. He generally inspects his fish when selling them, and if you have a word with him he generally condemns your fish. The fishermen are afraid of him.

894. Do you approve of the present baskets that are used? No, they are too large. Latterly I have got half baskets about 10 inches deep.

895. Would you recommend a rectangular shallow box? A box would do, if you could get the draught through it.

896. Suppose it was made on a galvanised iron frame? That would do, if not more than 6 inches, on account of the weight.

897. So as to avoid the superincumbent weight? I am sure that would do; I have tested it, and they are no extra expense for carriage.

898. Have you found your fish stolen on the way to the market? I have; I have had my fish numbered, and when I have come to count them I have found several deficient.

899. Would that be overcome by having locked boxes? Yes.

900. You will be pleased to know that this Commission have recommended the use of locked boxes? I am pleased to hear that.

WEDNESDAY, 9 OCTOBER, 1895.

[*The Commission met at the Offices, Bligh-street, at 11 a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Mr. Alfred Brown, 26 Brougham-street, Sydney, sworn and examined:—

Mr. A. Brown. 9 Oct., 1895.

901. *President.*] What is your trade or calling, Mr. Brown? I am a plumber by trade.

902. Where do you reside? No. 26, Brougham-street, Sydney.

903. Is your residence situated conveniently to the Woolloomooloo Market? Yes; it is no distance from the markets.

904. How long have you lived there? About twelve years.

905. Have you taken an interest in the fishing industry at all? Yes, I have.

906. Would you term yourself an experienced amateur fisherman? Yes, I would.

907. Have you a knowledge of our coastal fisheries? Yes.

908. During the time you have been residing at Brougham-street, have you had an opportunity of witnessing the manner in which the sales have been conducted at the Woolloomooloo Market? Yes, I have.

909. In the first place, do you think the Woolloomooloo Market is centrally situated? Well, it is; I think it is about as good a place as they could have, unless they could get it nearer the water—that is the only thing.

910.

Mr. A. Brown. 9 Oct., 1895.

910. Do you think that establishing a market on a site that would be accessible by road, rail, and water would be better? Yes; that would indeed be much better.
911. Do you know the officials connected with the Woolloomooloo Market? I do.
912. Have they held their appointments long? Lynch and Baker have held their appointments some time, and Seymour has been there ever since I can remember.
913. Have you attended any of the early morning sales? Yes.
914. Have you ever met Mr. McElhone there? I took him there first; I went for him.
915. What was the object of your taking him there? He wished to have a look at the fish in the markets on a sale morning, and the best morning for that purpose being on a Friday I called for him at 5 o'clock, and took him down.
916. Did both of you witness the sales that morning? Yes.
917. Can you tell us the date on which you visited the market? I cannot remember the date just now.
918. Was Mr. McElhone satisfied with what he saw on that occasion? Very well satisfied.
919. In what respect? That the fish market is not carried on properly, and the best part of the fish is not fit to be sold.
920. Did you arrive at the same conclusion as Mr. McElhone? Yes.
921. Have you noticed the treatment of the consignments of fish when they are about to be sold? Yes; the fish is thrown on the floor; they are fetched in in the baskets and emptied out in heaps.
922. Do you approve of the system of throwing the fish on the floor? No; I do not.
923. Do you think, by exposing them for sale in that way, they are liable to be trodden and spat upon? Certainly they are.
924. Have you seen that done? Yes.
925. Do you think any fish are stolen from the heaps? Yes; I have seen it done. I remember a man getting fourteen days for stealing fish. I was standing close by him when it happened; he kicked the fish along with his foot into the gutter, and went and picked it up; and one of the men saw him and gave him in charge.
926. Do you think it would do away with a number of complaints and grievances of the fishermen and the general public, if a system of raised tables was established? Yes; it would. The floor is clean when the first lot goes on it; after the first lot of fish is sold, the crowd of people walk about all over the floor,—some spitting on the floor; others chewing tobacco, and spitting the tobacco juice on the floor; some walking barefooted; and I have actually seen them, myself, blow their noses on the floor,—and this dirt and stuff is allowed to accumulate on the floor, and the next lot of fish is emptied out from the baskets on the top of it. Mr. Fernandez, who is a fish-dealer, would corroborate what I say fully; the system is scandalous and beastly.
927. Have you attended many of the sales in the morning? Yes.
928. Have you noticed, on more than one occasion, that fish unfit for human consumption has been sold? Yes, and the money returned; and then they have been condemned.
929. You think it possible that a quantity of fish unfit for human food has gone into consumption? Yes; I do.
930. Do you think the officials connected with the market carry out their duties satisfactorily? Well no; I do not.
931. Do you think there is any foundation for the statement that the officials work in with the agents? Well, I would not like to say there is a foundation; but it looks very suspicious,—there are two or three men who can buy fish when no other man's bid is taken.
932. Have you noticed that people have been desirous of obtaining certain lots of fish and were prepared to bid higher, and that these lots were knocked down to certain favoured individuals? Yes.
933. Have you ever heard the fishermen complain that they have not received justice at the hands of the auctioneers? Yes, scores of times.
934. Have you ever heard them say they had better hold their tongues or else Mr. Seymour or some other official will have a down on them and condemn their fish? Yes, that is quite right; it has been told me hundreds of times when standing outside the Fish Market.
935. Have you ever heard it stated that Mr. Seymour got his fish supplies for himself and his friends for nothing? We have heard it said that he does. He has knocked fish down to an unknown person named Cashess, whom nobody appears to know, and when they are knocked down in this name, one of the officials would come along and these fish were picked up and taken away.
936. Do you think it possible for the auctioneers to work in with the agents, so that these fish might be knocked down to friends? Yes; certainly.
937. Have you ever heard of consignments of fish coming into the market, and the best being picked out and sent into the country, and the balance being sold? Yes, many a time.
938. Have you ever heard that returns sent to the fishermen would be on the basis of what the inferior fish brought? Yes, and seen the fish picked out and put into another basket for the purpose of being sent away. I have also seen them shake the greater portion of the fish out of the baskets, leaving some at the bottom, and then putting an empty basket in the part-filled one as if it had been completely emptied.
939. By that system the fisherman is robbed? Yes, right and left; if not in that way, they are robbed by people who are waiting an apportunity at the carts—perhaps a basket or two may roll off the cart and there are always men waiting to pick them up.
940. Do you think there are many baskets of fish sent to Sydney which may be in a sound condition, that are in the returns to the fishermen stated to have been condemned? Yes, they adopt all sorts of means.
941. Do you think it would be a desirable thing to have a fish market open all day, instead of having the one sale in the morning? Yes; that was my suggestion at the Town Hall. Fish are sent in from all parts of the lakes and rivers that get here at a certain time, and are carted from the boat to the ice-house, and are left there till the next morning, when a few are put out to try how the sales are, and perhaps twenty or thirty baskets left till the next morning which are going worse and worse all the time. If fish are not in the best of condition coming in they will not go out of the ice-house good; when the fish arrive at the market the sale should be on to get rid of them at the time.
942. Would you favour the proposal that the fishermen should be allowed to come into more direct communication by being allowed to sell their own fish? Yes; I do not see why it should not be done.

I do not think the Corporation should have auctioneers there at all; they can knock the fish down to whom they like, and if the men interfere they are given in charge or put out of the market.
943. Are you aware that most of the fish come by rail? Yes.
944. Do you think it would be a good idea to establish a market—say at Darling Harbour—and have it conducted under Governmental control? That is just what is wanted.
945. Do you believe that in connection with the distribution of fish, it would be a good thing to have auxiliary markets established in the populous suburbs? I do, it would not be a bad idea at all. When the fish are bought at Woolloomooloo they have to cart them out to the suburbs, and the fish won't keep in the warm weather any length of time, especially if they have to be carried any distance.
946. Have you ever noticed the manner in which people treat their fish by placing a wet bag over them? Yes. That turns them worse than anything else; you want to keep fish dry as much as you possibly can; I have told them that before they got to their journey's end their cart would smell; you want to keep a draught through the fish and always keep them dry.
947. Have you noticed the way fish are sent to the market? Yes.
948. Do you approve of the basket system? No, I do not.
949. What would you suggest in place of the basket? Boxes with partitions, with holes of a certain size bored between the partitions, so as to allow a current of air right through—say a box of the same size as a basket—and put bream, whiting or schnapper on shelves to suit, so as to prevent the weight of the top fish from squeezing the fish below, shelves with holes in so as to get the air through the fish, and they would keep, I believe, a day longer. I have tried it at Jervis Bay and it was a success, a brother of mine made the boxes.
950. Have you watched the process of gutting fish in the Woolloomooloo market? Yes.
951. Do you think that satisfactory? No, it is not, for the reason that the water that the gut is washed and cleaned in is pumped back again into the tanks; it is polluted water. And then there is the sewer that runs into Woolloomoolloo Bay; four different sewers run into the Bay, and therefore the water is bad.
952. Is the place of intake near the sewers? No; but the water is affected, you can see it going right round the Bay on a rainy day.
953. Do you think, considering the prices the general public have to pay for fish, and the prices realised by the fishermen for the product of their labour, that the fisherman gets fair remuneration for his labour? No, he does not.
954. Do you think the system of having the market open all day long, and the fisherman to sell his own fish, and if they could bring them gutted to the market, would be better in the interests of the fishermen? It would be a lot better.
955. In connection with the storage of fish which may arrive late for a sale, have you found this practice in vogue, that some of the ice-house fish have been placed amongst the fresh fish in the heap? Yes, and sold.
956. Have you had any experience in well-boat fishing? No, I have not.
957. Do you think if it has proved a success in other parts of the world it is likely to prove a success here? Yes, I do.
958. Do you think some precaution should be taken to prevent the wholesale destruction that has been taking place in the River Murray? Yes.
959. Do you think we could acclimatise several species of the fish in the waters of this Colony? Yes; I think we ought to be able to do so.
960. Have you a knowledge of the deep-sea fisheries? Yes.
961. Where did you fish? All over this coast, right from Twofold Bay to Port Stephens, as far as Cape Hawke.
962. Have you a knowledge of the system of well-boat fishing? Yes; I have a knowledge of it.
963. Do you think if the experiment were tried it would prove a success in regard to the catches which are taken in the deep-sea? Yes, I do.
964. Do you think there is any possibility of trawling being carried out on our coast? Well, on certain places there is, but I do not think it would be a success here, I do not think you would get enough fish along the coast, I do not think you would get any schnapper by trawling, at any rate it would be only rarely that you would get them.
965. Have you, when fishing outside, ever noticed shoals of fish travelling from the north to the south? Yes.
966. Have you ever noticed what they were? No; I generally used to call them pilchards, others call them maray, and some call them sardines, they do not seem to have a proper name. I call them maray myself, I got a lot of them down at Jervis Bay this time, there are tons of them down there. [*The witness was here shown a specimen of the pilchard in possession of the Commission; he stated they were the same sort of fish, but not nearly so large as the specimens.*]
967. Do you think they could be put to some commercial value if we had people with skill and enterprise? I do, indeed.
968. Have you ever seen any whitebait along the coast, and caught any? Yes; once or twice, but very seldom.
969. What sort of fish do you think they are? I cannot tell you.
970. Have you ever caught what is known as the southern herring? I do not think I have. [*The witness was here shown a specimen of the fish in the possession of the Commission, when he said he had caught them in Broken Bay.*]
971. In any quantity? No, not many.
972. You have had an opportunity of coming in contact with the fishermen from time to time? Yes.
973. Have you ever heard them complain of the provisions of the Fisheries Act being harsh? Yes; they have said so.
974. Do you think they require more liberal legislation? Yes; they say it is rather too hard on them.
975. Have you watched the administration of the fisheries at all by the present Fisheries Commission? No; I have not taken much interest in it.
976. You would not be in a position to state whether it is essential to retain that body or make some change in its constitution? There might be a little change, but I cannot see how you can make much change in it.

Mr. A. Brown, 9 Oct., 1895.

977. Do you think it should be part of the person's duty who is administering a law in connection with the fisheries to make himself acquainted with the local circumstances and conditions of the fisheries? Oh yes, but in my opinion, no matter how you made the laws there would still be fishermen who would complain, there are some who are never satisfied; there are always some who would object no matter what was done, some would be for and some against. They are a peculiar lot. I have been a long time with them and could never make head or tail of them. I have had one of the Reports and I read some of the evidence.
978. *Mr. Thompson.*] Have you had any experience in the inland fisheries? No, I have not worked them; but I have seen them catching cod on the Murray. I never had anything to do with them.
979. You are not in a position to form an opinion as to the character of the nets they use? There is a fisherman I know who has made a net for Murray cod.
980. Do you think the nets they use are suitable for the purpose? I think so; but I have not had a great opportunity of judging.
981. Did you notice that the City Council had taken some interest in regard to the way matters were conducted at the Woolloomooloo Market? I gave evidence, I was there four or five hours; but they do not seem to take any steps, I have never heard of any result.
982. You have not heard whether they are going to make any of the suggested alterations? I saw in the paper that they are going to put the tables in the market. They showed me the plans of the tables and asked me if I approved of them, either of slate or marble. I told them it would be the finest thing that ever happened, as it would give everybody a chance of seeing what they were buying, and would do away with the dirty, filthy state the fish now get into by being laid on the floor.

TUESDAY, 5 NOVEMBER, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Henry Joseph Daniels, Esq., Town Clerk, Sydney, sworn and examined:—

H. J. Daniels, Esq. 5 Nov., 1895.

983. *President.*] Your name is Henry Joseph Daniels, and you are the Town Clerk of Sydney? Yes.
984. You have held that position for a considerable time? For about ten years.
985. Can you inform the Commission what action the Municipal Council has taken in respect to a further improvement of the accommodation at the Woolloomooloo Fish Market? Yes, so far as passing a resolution and accepting designs of marble tables for the display of the fish.
986. Raised tables? Yes. A specimen wooden table has been submitted to the dealers, it is slightly different to what the adopted design was; the adopted design was a flat slab with a small platform running along it. In consequence of the salesmen representing that they preferred sloping tables, with divisions about every 2 feet or so apart, the Mayor has authorised that in calling for tenders there should be alternative tenders of our adopted plan and the one the fish-dealers require, so that will have to be settled on the acceptance of the tenders, which close on Thursday week, and the matter will then most probably be decided.
987. Is the Municipal Council of Sydney going to do anything in regard to an alteration of the system of selling the fish in the market? Yes; the Council have passed a resolution to the effect that it is expedient to do away with the custom of the city officers acting as auctioneers, and that the method of charging the percentage by our auctioneers be done away with, and that dues be charged for all fish brought into the market for sale, the said fish to be disposed of by auctioneers to be approved of by the Council. These regulations are to come into force as soon as possible after, but not before, the first day of next year, that is pending the sanction and adoption of the by-laws by the Executive; but I am afraid we shall not be in a position to start on the first of the next year.
988. This new system would practically allow the fishermen to sell their own fish in the market? So long as it is sold by authorised auctioneers.
989. Has the Council recommended more than the one sale a day? No; they are against more than the one sale.
990. It is proposed to continue the present system? Just the wholesale auction sales in the morning. We did open the market once, and it was found to be a failure selling fish at any time it came in; it was quite a failure.
991. There was a committee appointed consisting of Aldermen of the City Council, and I understand they took evidence and made certain recommendations—are those the recommendations which you have stated that they have made? Yes.
992. Have you, as Town Clerk, ever had any complaints brought under your notice of the unsatisfactory manner in which matters are conducted at the market? Only by Mr. McElhone, and an occasional grievance from an agent, but not from the fishermen; I mean to say that an agent might grumble about the space allotted to him, or something of that kind.
993. Where does the water supply come from that is used in cleaning and gutting the fish? Nearly three-quarters of a mile from the market, right from the other side of Foley's Baths, between the baths and the rowing-shed. I asked the City Surveyor what distance it was, and he said it was quite half a mile from the market.
994. Is it proposed to reduce the charges at all in the markets? That is a thing to be arranged, it is not a matter of reducing the charges; the question is to see what is the lowest we can charge. We used to charge 5 per cent. commission, and the agents another 5 per cent. commission; now I want to embody in the by-laws an equitable charge for dues somewhat similar to the system that obtains at Melbourne.
995. How many auctioneers have you at the present time? Three.
996. Is Mr. Seymour one of them? Yes; he is the chief auctioneer.
997. *Mr. Thompson.*] You are aware of the system adopted in Tasmania as to market dues? They sell on the wharf, do they not?
998. No; they have a market, and the fishermen sell, and they pay 6d. or 1s., according to the size of their

their boat? I wish you gentlemen to understand that as I am speaking about matters that are under consideration, I am not in a position to speak fully on the subject until the resolutions and recommendations are adopted by the Council and made public. H. J. Daniels, Esq. 5 Nov., 1895.

Mr. John Edward Chinnery, fishmonger, Hunter-street, Sydney, sworn and examined.

999. *President.*] What is your name? John Edward Chinnery.
1000. What are you? A fishmonger.
1001. How long have you been engaged in that occupation? For twenty-three years.
1002. Have you had a good opportunity of gaining a thorough insight into the fisheries laws as well as into the operations at the fish markets? Yes. Mr. J. E. Chinnery. 5 Nov., 1895.
1003. How long have you been purchasing fish at the Woolloomooloo Markets? For about twelve years.
1004. Were you actively engaged in the fishing industry before that? Yes.
1005. Have you ever purchased any fish from the Redfern Market? Yes.
1006. Have you been satisfied with the manner in which the business of the Woolloomooloo Market has been conducted? Yes, perfectly satisfied.
1007. Do you think some improvement in the way of displaying the fish, in the way of having raised tables, might be effected at the Woolloomooloo Market? Yes, I think it could; but I do not think they would answer, that is, the tables.
1008. Why? Because there would not be room and there would be a lot of time wasted, and they would not get through with the work.
1009. Provided there was room? Yes, provided there was. My own idea was to have the middle of the floor raised in squares, raised up off where the people walk, and to have a passage through.
1010. Would not that be a kind of table? The tables they have got in the market now I believe will never do; they have a sample table there. If they had the little squares I have referred to the people could walk round and would not be allowed to go on them. The table they have got there is about 3 feet square, divided like a fruit stall, it slopes, and along the middle of it the auctioneer has to walk.
1011. Would it be a good idea to allow the fishermen to sell their own fish? Yes, I think so; but how could those who cannot get to Sydney sell their fish?
1012. I mean one of their own body, so as to do away with the compulsion that at present exists of their having to pass it through an agent and a municipal auctioneer, the fishermen to appoint their own auctioneer, do you think that would be better? I do not think so.
1013. Do you think the municipal authorities conduct the sales so satisfactorily that they should be continued? Yes.
1014. Have you ever heard the fishermen complain that the agents get the bulk of the results of the sales of their fish? Yes, ever since I have been there; they are always complaining, they are never satisfied, and they get a better price now for their fish than they ever got.
1015. Do you purchase largely? Yes.
1016. In public competition with other people? Yes.
1017. Have you known of cases where a consignment of fish has been put up for sale and knocked down to a fishmonger, when there were people standing by prepared to give a higher price for it? No, not at all; they grumble after it is gone, and they could not get in.
1018. Have you ever heard it stated that there was a ring, and that this ring could use the municipal auctioneers as they like? No, I never heard it.
1019. Do you know that such a thing exists? No, I do not; I think the buyers are cutting one another's throat; it is all the other way.
1020. Have you heard of the municipal officers—the auctioneers—selling fish on their own account? Never.
1021. Have you ever heard of the agents selecting the best fish out of a consignment belonging to a fisherman and sending them to the country, and giving no credit to the fishermen for them? Never.
1022. Do you think the fishermen get a fair price for the fish compared with the labour they have to undergo? I think they get an exorbitant price at times, and a fair price for fish in any way fresh or good.
1023. With reference to the consignments of fish, are they not placed in heaps upon the floor to be displayed before being sold? Yes.
1024. Have you ever seen people treading on them, or spitting on them? Not spitting on them; they cannot help treading on them at times, there being no space for them to walk between the heaps.
1025. You have mentioned that when fish is received fresh the fishermen obtain a good price; have you ever known unsound fish to come into the market? Yes.
1026. Have you ever known it to be sold? No; I have bought schnapper which I have thought fresh, but when opened have found them to be rotten in the guts, and all the other parts good; bream, too, and mullet, in the same condition; blackfish as well.
1027. And do you not know of cases where auctioneers have sold stinking fish, and have had the fish returned, and refunded the money? They have sold me bad fish, and I have returned it, and got the money back again. I have bought it thinking it good, and when opened it stank awfully; you cannot tell until you have opened it.
1028. I understand there is only one sale a day at the market; do you approve of that;—or do you advise having two sales, or having the market open all day? I think one sale is enough. They used to have it open all day long, and it did not answer; they used to have sales and sell fish all day long.
1029. Do you think it would be a good thing to allow of another sale—say at 10 o'clock in the morning—so as to dispose of the consignments of fish that may arrive too late for the first sale? Yes; I think it would be a good idea.
1030. Do you think the Woolloomooloo Market is centrally situated? Yes, I think so.
1031. How does most of the fish come to the market? By rail.
1032. Do you not think it would be an advantage to have as little handling as possible in connection with the fish? Yes, the less they are handled the better.
1033. Would it not be a good thing to have a market established to which access could be gained by rail, road, and water? Yes, it would not be a bad thing; it would be better, I think.
1034. As to the market dues which are at present charged, do you think them excessive? I think they pay 2s. in the £. I do not think they charge too much. 1035.

Mr. J. E. Chinnery. 5 Nov., 1895.

1035. Do not a number of hawkers frequent the market? Yes.
1036. Do you think it is possible for the agents to work in with the hawkers and so deprive the fishermen of much that should belong to them? I do not think so. I could not say what the agent does; I could not say anything about him.
1037. How many other fishmongers are there besides yourself that attend at the market? Some mornings there are a couple of hundred there.
1038. And all have the same right to purchase as yourself? Yes, every one of them, everybody has as much right to purchase fish as I have.
1039. Do you know of any occasion when the auctioneers have been guilty of favouritism in regard to the purchase of fish by public auction? No, I do not. On one occasion a fisherman grumbled about my taking his teraglin; they were put up for sale by Mr. Baker, and somebody bid 1s. 3d. for a large one. Baker said "I am selling the whole lot and I am offered a shilling for each of them"; there was a bid of 1s. 3d. given for one; he said "1s. each for the lot, will anyone give more than 19s. for the lot"; nobody bid except myself and he knocked them down to me. The man grumbled about the way his fish were sold and I told Baker to sell them again, and he said all right. The ring stood round again; he sold the big one for 1s. 3d., and the others were not bid for; I said, "Can't you get a bid," he answered "No"—there were about fifty standing round—I said, "I will give you 6d. each now"; there was no advance. Baker asked if there was any advance, and he knocked them down to me and I got all the other lot for 6d. when I was previously giving 1s. each for them.
1040. *Mr. Thompson.*] Could you multiply instances of this kind? Yes, the auctioneer knows he could get more off me for the whole of those fish than he could by selling the man an individual fish, the man only wanted one fish. I got all the others for 6d. each after they were knocked down to me for 1s. each; I think he lost 9s. over that transaction. Brown came one morning and wanted a big schnapper, and they were knocked down to me because I took the lot. If the auctioneers are not working in the fisherman's interest in disposing of the fish in this manner, I do not know what is in their interest. The fishermen never got such a price as they get now.
1041. You say the fishermen get satisfactory prices for their fish? It is knocked down at a good price; I do not know whether they get the money.
1042. Are you aware the returns sent in to them frequently bring them in debt to the auctioners? Their fish are bad then and not saleable. If they go into the ice-house they are not worth much. On Saturday morning there was a nice lot of jewfish and the man was offered 1s. a piece for them and they were put into the ice-house and I got them for 9d. on Monday morning.
1043. Then, in your opinion, poor returns are wholly due to the fish being in bad condition? Yes, if the fish is right they get a good price for it.
1044. Do you not think the market dues are a little too much? No, I do not think they pay too much—1s. in the £. I think the agent ought to do it for a little less.
1045. What do you think would be a fair charge for the agent to make? I think if they got 2½ per cent. it would be a fair thing; but I do not know how the agents do it, there must be something wrong with them. When they have good fish they get a fair price for it.
1046. This 5 per cent. commission is on the value of the amount the fish brings? Yes, I think it is 2s. in the £; 1s. to the market, and 1s. to the agent.
1047. You think the sales are fairly conducted and that no favouritism is shown? No; the apparent favouritism is only a bit of jealousy.
1048. About the tables, this is an end view of the tables (*exhibiting a rough sketch*)? Yes, something like an enlarged school desk, the auctioneer walks along the centre of the sloped table, they are divided and are about 3 feet square; the auctioneer stands on the platform above them and offers each lot, and so on right to the end.
1049. Do you not think it is a very much easier matter when the fish are sold in that way for the fishermen just to sweep them off into the basket than to pick them up one by one? It would be a much easier arrangement.
1050. You mentioned that they could not get through the business with this system if it was adopted, why is that; if the tables were properly disposed where would be the difficulty? You cannot all stand round one small table.
1051. You have different auctioneers selling at different parts of the market? Yes.
1052. If there were a sufficient number of auctioneers the difficulty would be disposed of? Yes.
1053. Then, in that view of the case the tables would be an improvement? I think the little low slabs would be a better one.
1054. My idea of these tables is that they should be 60 or 80 feet long? They are placed in between the pillars of the market.
1055. Then they cannot be anything like 80 feet long? No, they are about 12 feet long, and a dozen people round them would smother them up; in my opinion if they had these little squares with a passage running between would answer better.
1056. Would it not be better to have tables, say, 50 to 80 feet long, running right along the market? The tables they have got now—12 feet long—will never answer; it is absurd.
1057. Are private purchasers allowed to obtain fish in the market? Yes, as much as I am; they can go and buy a heap of fish as well I can.
1058. If the fish are put out in large quantities would not that prevent the private purchaser from buying fish, he would not want such a large quantity? The way they put the fish out is in little heaps of half a dozen flat-head or bream, one schnapper, and one jewfish. I have bought them about 3 lb. in a heap, fetching 2d. at a time.
1059. You would not allow the fishermen to dispose of the fish in quantities? Well, that is as he likes; I think it would be more to his advantage to have them in big heaps.
1060. Would not that be in favour of the large purchaser? I do not think so, if a private buyer comes down he ought to be able to buy 10 lb. of fish and whack them between two or three; I have bought 3 lb. of fish for 2d. a heap. I think they ought to make their heaps a little better than they do. The fishermen say they will not put their fish on the tables; if you get twelve people round them there is no room, and sometimes you get 200 people standing round. There is only one table, a sample, made of wood.

WEDNESDAY,

WEDNESDAY, 6 NOVEMBER, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Mr. Richard Seymour, Inspector of Nuisances for the City of Sydney, sworn and examined:—

Mr. R. Seymour. 6 Nov., 1895.

1061. *President.*] Your name is Richard Seymour—what position do you occupy? Inspector of Nuisances for the City of Sydney, and salesman for the Eastern Fish Market, Woolloomooloo.
1062. How long have you held the respective positions? I have been Inspector of Nuisances since 1862, and salesman at the Woolloomooloo Market for twenty-three years; previous to that I was for seven years inspecting fish on the wharfs, which makes thirty years in all.
1063. Does the Municipal Council of Sydney pay you a salary? Yes; they do.
1064. Are you not also an Inspector of Fisheries under the Fisheries Act of 1881? A sub-inspector.
1065. Do you receive a salary for that? Yes; £50 a year.
1066. How long have you held that position? Since shortly after the appointment of the Commission.
1067. You have acted as salesman on behalf of the Municipal Council of Sydney for a number of years? Yes; twenty-three years.
1068. In that case you have been a very long time attending at the Woolloomooloo Fish Market? I never missed a morning until during the time of my sickness, and when for three weeks I went to Melbourne for the Railway Department, and the three weeks I was away inspecting on behalf of the City Council for the City of Melbourne, inspecting sanitary arrangements in New South Wales, Victoria, and Tasmania. When I returned I handed in a report of my inspection to the Municipal Council and the Railway Department.
1069. Are there any other gentlemen besides yourself acting as auctioneers on behalf of the Municipal Council? There are two others—Mr. Baker and Mr. Lynch.
1070. What is the mode of procedure from the time the fish enter the market to the time they get into the hands of the public? When they come to the market—the first lot generally comes from the steamers, the second from the railway—they are brought in in baskets—80 or 90 lb. baskets, and 35 to 40 lb. baskets, adopted recently—they are brought into the market and emptied out on the floor, and each auctioneer goes round and inspects the fish he has to sell. Before the sale I go round with the clerk of the market, and inspect all the fish I can possibly see on the floor. Of course you will understand I cannot see the fish that is in the baskets; the auctioneer has to judge of that as he goes along.
1071. What originated the adoption of the smaller baskets? I have been advocating the adoption of the smaller baskets for years—ever since I went to Melbourne, in 1880. I saw they were sold in small baskets there, and I thought it much better than using the large ones; the fish are too much confined in the large baskets.
1072. And after the fish have arrived at the market, are they displayed for sale by being placed in heaps on the floor? Yes; they are.
1073. What is generally the size of the heaps? Generally, five or six heaps to a large basket; small baskets, three to four heaps, sometimes five heaps.
1074. Is it any part of your duty to see that the floor is perfectly clean before the fish are emptied out on it? It is; and the market is washed down by hose. There are two men kept for nothing else, and it is washed as clean as the table here every day of the week, except Sunday, on which day it is not used.
1075. Do you approve of the system by which fish are displayed at the market? I do not.
1076. Would you approve of raised tables being substituted? That is going to be adopted now—tables with marble slabs, and the fish is to be sold in baskets; no fish is to be exposed for sale on the floor at all, or sold off the floor.
1077. Have you had occasion during your term of office to condemn much fish? Some thousands of bushels.
1078. Would that be from the fact of the fish having been caught at a distance away from Sydney, that would not allow of them arriving fresh at the market? Yes; fish that is caught in the summer months at Cape Hawke, Port Stephens, and the distant fishing-grounds. In the summer they come in, and sometimes it is almost as much as you can do to sell them, and at other times they come in in a very bad condition; and that is how it is fish is condemned continually. My opinion is—if you will permit me to say so—that if the home fisheries were shut in the winter, and opened in the summer months, the public would have a better chance of getting a good fish supply, because in the winter they could go further from home to get fish; in the winter, the fish from Cape Hawke comes in in splendid condition.
1079. You do not mean all the waters in the home division to be thrown open; you would have due regard to the nurseries? I should not allow the nurseries to be opened under any consideration.
1080. You would give the fishermen more extensive waters in the home division than they have now? Yes; in the summer months.
1081. I think you mentioned that it was difficult for you to ascertain whether fish were in a fresh condition or not when in the baskets? It is.
1082. Is it if the fish is exposed for sale on the floor? Whether it is exposed for sale on the floor, or emptied on the tables, the fishermen, as a rule, will put the best of the fish on the top of the basket, while the fish at the bottom I have found in many instances very bad.
1083. Would not the use of the large baskets be a means of causing the fish at the bottom to become bad in condition? Certainly it would.
1084. Do you think it would be better to adopt the system of conveying fish in cases, so as to prevent it? I do not approve of the manner in which cases come to the market at the present time—there is no ventilation; if there were it would be well.
1085. Would you approve of the use of boxes made of galvanized wire on an iron frame? Yes; there would then be a chance for the air to get round the fish.
1086. Is the ice-house availed of to any extent by the fishermen? Yes, it is; it is a cooling chamber.

Mr. R. Seymour. 6 Nov., 1895.

1087. Do you know whether it is possible that fish in a bad condition has been placed in the ice-house, and that it has been sold a day or two afterwards, and when it has regained its normal condition the fish has been found to be bad? It has been so, and the fish was condemned.
1088. Has it been the practice of some of the agents to mix the ice-house fish with the fresh fish and sell them in heaps? I have never seen it.
1089. Could it be done without your knowledge? It could; the fish that goes into the ice-house comes into the market between 11 o'clock and 11.30; we do not see that; the clerk of the market has instructions to inspect that fish.
1090. Would he be under the same disadvantages as yourself in regard to the fish at the bottom of the baskets which might be bad? Yes.
1091. Would this state of things—the ice-house fish being sold with the fresh fish—account for any of the complaints that have been made of unsound fish being sold in the market? Of course it would.
1092. Have you, on any occasion, knowingly sold fish that were unsound? No, not knowingly; I have, on several occasions, found fish topped over with good fish, and when picked up the bottom ones were bad, and they were seized and condemned.
1093. If consignments of fish have been sold and have been found to be unsound afterwards, and application has been made to you for a refund of the amount which has been paid for the unsound fish, has it been refunded? In such cases where anyone has spoken to me, I have gone to the agent and seen the money refunded.
1094. Has it happened on any occasion that anyone has complained to you of putrid fish having been sold, or of its being in the market, and you have refused to take any notice of the complaint? I never refused to take any notice of a complaint. I know one agent there in March who wished a lot of mullet condemned and it was sound; the agent was Mr. Fitzgerald, and the men—the large buyers—standing round said the fish were sound and they bought them; and in another instance where a man said he bought fish in the market, in the morning, early, and none of us remembered seeing him in the market that morning. He came in about 8 o'clock, I was not there; he said he bought the fish from Mr. Augustus. Augustus said, "you bought no fish from me"; the man said he did, and paid him 4s. for it. The matter was referred to Mr. Baker, who stated he never saw the man there that morning; he is a remarkable man, we call him "drunken Sam"; he afterwards said Augustus said the fish were sold and he gave him 3s. instead of 4s. Fish is sometimes bought at other places and brought to our market, and they say we sold it.
1095. Would that person, Augustus, whom you have mentioned, be the man who took action against Mr. McElhone? Yes; the same.
1096. Have you ever seen Mr. McElhone at the Woolloomooloo Markets? Not since the election for the House; he was there repeatedly previous to that; but since he got his seat in Parliament I have not seen him.
1097. Did he, on any occasion, bring under your notice the fact of putrid fish being sold in the market? Yes; on one occasion a morwong, and also some fish sold by Mr. Lynch and which when pointed out Mr. Lynch condemned them. I was called down by McElhone to see the fish, and I said they were not fit for sale and Mr. Lynch said, "I have condemned the fish Mr. Seymour," so I replied, "I have nothing more to do with them if you have condemned them." We had an officer going round the market at the time watching all the fish that were put out.
1098. By the mode of displaying the fish are they liable to be trodden and spat upon? They are liable to be trodden upon, but we do not allow any smoking in the market during the sales; if we catch them spitting we summon them.
1099. Do you not think it is likely that the contention of some of the fishermen could be borne out, that owing to the manner in which the fish are placed on the floor in heaps, that several fish are stolen from them? There is no doubt of it, we have prosecuted people for stealing fish, especially on the Friday mornings; they come down in a gang and a man will stand in the front and kick the fish out. They have stolen fish from Chinnery and several others.
1100. Have you heard of the fishermen complaining that they have lost fish either in transit or at the market? I have; I have inspected baskets and boxes repeatedly, and they are supposed to contain a basket or box full, and I have found them not half full in many instances.
1101. How does most of the fish come from the fishing grounds? Mostly by the railway, excepting that from Cape Hawke and Ulladulla and those places; from the Clarence River they come by water.
1102. Would you consider the Woolloomooloo Market centrally situated for all purposes? I consider it in a good position for a wholesale market but not for a retail market. I may mention that there is going to be a retail market established in the new market in George-street, there is provision made for it.
1103. Do you not think that as most of the fish comes by rail it would be advisable to have a market which would be accessible not only by rail, but by road and water, if possible? Yes; I think myself the present one may do for a wholesale but not for a retail market.
1104. Would it be a good idea to have what they call auxiliary markets established in the different suburbs for the distribution of fish? We have two now in Redfern.
1105. In regard to the sales at the Woolloomooloo Market, what time do you start? At half-past 5 sharp.
1106. Winter and summer? In the summer at a quarter to 6, as sometimes we have not got three buyers in the market and it is no good going on. In the winter, we begin at half-past 5 sharp.
1107. I take it the suggestion to commence earlier would be to give more time to have the fish distributed during the cool part of the day? During the morning.
1108. I think you said the ice-house was availed of for the purpose of storing the fish that arrived too late for the morning sale? Yes.
1109. Do you think it would be a good thing to provide against that by having an extra sale a day—say at 11 o'clock? Yes, if we could get the buyers; the class of buyers we have want to get their fish early and get away home; the buyers that purchase by basket, or barrel, would not come to the market after breakfast, as after that they go out with either fruit or vegetables. We tried it for some time and it was a dead failure.
1110. You think it would be better to have the different markets for distribution rather than have the second sale? Yes.
1111. Is it absolutely necessary for the fishermen to appoint agents to do their business in the market? Under the new regulations the fishermen can sell their own fish from the first of January next, as well as the

Mr. R. Seymour. 6 Nov., 1895.

the agents. The city auctioneers have nothing more to do with it; they will only have to attend to their legitimate duties and inspect the fish.

1112. Have you ever heard the fishermen complain of having returns sent to them bringing them in debt to the agent? We have been called on for returns in cases where men get no returns at all, and we have our books to check everything that takes place in the market. For all condemned fish we give a certificate, which is sent to the agent, and the fisherman can examine the books of the market at any time from 10 o'clock in the morning until 6 o'clock in the evening; he can also go to the Town Hall and see what was done with the fish. The bad fish is sent out to Moore Park.

1113. Knowing the fishermen so well, do you think it would be likely that the majority of them would think of looking at the Corporation books and going to the trouble to find out for themselves, in respect to the agent's transactions in the market? They have done so.

1114. In a case like this: say fifty baskets were sent in from a certain fishing-ground to the market for sale—is it not open to the agent to give returns for forty baskets, certifying that there were ten baskets condemned, while the whole consignment may have been sold and thus the fisherman would be deceived? But the fisherman cannot be deceived about them being condemned as we keep a book expressly for condemned fish.

1115. Yes; but in the case of a fisherman having confidence in the agent he employs, the agent is not compelled to send the certificate to the fisherman, so that if he chose to be dishonest he could send a return, saying forty were sold and ten were condemned? He could.

1116. Have you ever heard of the practice said to be in vogue of the agents culling out the best fish that come from some of the fishing-grounds, selling the inferior fish, and sending a return back on the basis of what the inferior fish brought? I have not heard it, but some of the agents pick out their fish, they are allowed to put a price on it. We start them at a certain price and if we get a bid and cannot get another we knock it down. The agents will sell the best fish that comes from the waters, and keep the inferior fish for the auctioneers to sell; where they send a return to their catchers that all the fish only brought a certain sum that is the catchers' fault if they accept it, as they can find it out.

1117. Would it not be possible for the agents to work in with the hawkers in respect to the consignments of fish which come from the fishermen? I do not think so except they sold privately; in that way they could do it, they could not do it by public auction, but by private sale.

1118. If it has been alleged there has been undue favouritism shown to certain fishmongers, can you tell us whether there is any ground for that? It was alleged that a certain man got his choice of fish, when I can solemnly say that man always bids the highest price for fish; and this statement was made by a man who was once an agent, who was serving seven or eight establishments, and whose purchase for the year amounted to £160 9s.; and the weekly accounts of the man whom they complained about are often more than that. I remember a case of a basket of whiting belonging to a man named Smith. I spoke to the agent about it, and he said, "You have nothing to do with them, they belong to my boss;" I have said, "You must put them out," and they have insisted upon keeping them; and I have sold them, and they have brought over £1, of which amount the man would have been robbed had I not seen them and sold them.

1119. Robbed by the agent? Yes.

1120. Do you think it is possible that in emptying the fish from the baskets on to the floor, when putting them into heaps, some of the fish can be left in the baskets, and after they have removed what apparently are empties, the fish in these baskets could be collected? Yes; I will tell you why; the owners of the fish, if they are in the market, such as the Botany or harbour men, will say, "You put out this fish for me, and you can have half a dozen fish for yourself;" and these are left in the baskets, and these men take these fish; they do not steal them, they are told to take them.

1121. As to the prices realised for the fish sold in the Woolloomooloo Market, do you think the fisherman obtains a fair price for the result of his labour, compared with what the general public has to pay for fish? Certainly not, for the public has to pay four times more than the fisherman gets for his fish.

1122. You think then that the closer the communication between the fisherman and the general public the better? Yes.

1123. Can you give us an idea of what is the average number of baskets that go through the market? Recently, they averaged from 400, 500, and 600 a week; before that they would be as much more—fish being very scarce lately. One agent has over 100 baskets in a morning, especially on a Friday; sometimes 120 and 130.

1124. What do you charge for selling the fish—what percentage? Five per cent.

1125. And do the agents charge a percentage? Yes; 5 per cent.

1126. And they charge cartage; and that comes off the fisherman's profit? It does.

1127. Are many fish brought to the market by means of the well-boat? A few schnapper, not many; we may have eight or ten dozen now and then come from the southwards.

1128. It being compulsory for those fish to be sold through the market, have you taken the opportunity of noticing whether the fish have deteriorated by being confined in the well-boat? I have noticed in some of the schnapper that the scales are off; they are an uneasy fish, and knock about and fight with one another. I have noticed some of the well-boat fish when cleaned; when you cut them open the whole fish opened away from the backbone, which I attribute to the manner they have been knocked about in the well-boat.

1129. Were they cleaned immediately after death? Yes, immediately afterwards. The well-boat, in my opinion, for schnapper, ought to be a great deal larger than it is.

1130. Have you any reason to believe that the practice of well-boat fishing would be a success? I believe it would be a success in bringing good and wholesome fish to the markets.

1131. Do you find any damage occurring to the flathead brought to the market? There are none brought in in the well-boats, it is all schnapper.

1132. Do you think it would be a good idea to have the fish gutted at the fishing-grounds before being sent to market? I do; all large fish ought to be gutted and cleaned in their own waters, because there are times when the bait they use is bad, and no sooner does the fish die than it begins to decompose.

1133. You have all the necessary arrangements for gutting and cleaning fish at the market? We have.

1134. Where does the water supply come from for that purpose? Down near Lady Macquarie's Chair. You may see the engine down below the Corporation private baths, some distance away from there, and that water also goes to the baths in Castlereagh-street.

1135.

Mr. R. Seymour. 6 Nov., 1895.

1135. Are there not several sewers emptying themselves in the vicinity? Not just there; about the centre of the Woolloomooloo wharfs, where the American boats used to be, Cowper Wharf.
1136. Do you ever, besides having the fresh fish submitted for auction in the market, have any preserved or dried fish? We have preserved fish.
1137. What sort of prices do they realise? Very little. William Twibble buys a great quantity of fish; he cleans them in the market, and takes them home and salts them, and they are very delicious fish.
1138. You mentioned something about the supply of fish having become diminished of late; speaking more particularly of the supply of schnapper, has that supply become diminished? It has, very much.
1139. Do you see any reason why it should? I cannot see any reason, only that our schnapper fishermen will not go out to fish for them.
1140. You think, then, that if they had an enterprising spirit, and proper boats, and so on, with the system of well-boat fishing, a good supply of schnapper could be kept up? I am sure of it.
1141. During the number of years you have been in the market, have you ever noticed consignments of the herring family—of pilchards—come into the market? Yes; recently there was a great quantity.
1142. But for many years previously have you noticed them? I have not; years ago large quantities came in; I have seen them sold on Circular Quay.
1143. Was a great quantity of pilchards sold or brought into the market lately? There was.
1144. What did they realise? They were sold very cheap, realising from 6d. to 1s. a heap.
1145. How much in a heap? Between 20 and 30 lb. in the large heaps.
1146. They would be fresh, of course? They were splendid.
1147. Have you any reason to doubt that they are a palatable and good edible fish when freshly caught? They are a very beautiful fish, for I have had them myself.
1148. Where were those pilchards caught? Down in Middle Harbour, by the Newtons and two or three others; they told me they had over 100 baskets one morning down about the Spit.
1149. Have you ever heard it is the usual thing for these fish to make their appearance at certain times of the year along our coast? I have heard so.
1150. Do you think if these fish occur in great numbers along our coast, and can be caught easily, we could make them of some commercial value? I am sure you could—why should we get sardines and other kinds from home when we could do it here if we had men of enterprise to go in for it?
1151. Do you know whether much fish is sent into the country? On the Newcastle side I believe there is; all they send us down from there is blackfish; the bream, schnapper and that is sent up north.
1152. Where are those fish from—the blackfish? Newcastle, Port Stephens, and the different inlets, and Lake Macquarie.
1153. Then, all the take of the finer fish is sent north? Yes; the superior fish is sent north.
1154. Sydney gets no supply of the finer fish? Except the large mullet and the blackfish; we get some very fine black bream at times.
1155. But you do not know as to the quantity, or if any are sent into the country from Sydney? Oh, yes; Mr. Jennings sends fish into the country, and Mr. Comino, of Oxford-street, used to send a good deal.
1156. Do you think if the Railway Department established a means by which fish could be conveyed without fear of their becoming unsound in condition during transit, it would be patronised by the agents? I am sure it would be patronised by the general public all along the line.
1157. Do you see any reason why a good fish supply should not be brought into vogue throughout the towns near the railways? I do not.
1158. You think, then, if a cooling car, either adopting the principle of the cool air process or by means of ice, were placed at the disposal of the fishermen, it would be availed of by the agents? I am sure it would.
1159. Have you, as sub-inspector of fisheries, ever noticed any under-sized fish exposed for sale in the fish shops about the city? I have not; but have noticed them in the market, no later than this morning. There is a great difficulty about the matter; these fish are sometimes caught where you have no inspector, by northern or southern fishermen, and they are sent to the market, and the question is who are you to summon? If you summon the catcher you will have to go away up the country to summon him. I have had advice on the subject, and cannot see my way clear. In the case that occurred this morning, it is one that happened in our harbour, and the man will be summoned next week.
1160. Do you not think it would prevent this sort of practice continuing if we published to the fishermen and those engaged directly and indirectly in the sale of fish a plain straightforward interpretation of the law? I will tell you what I got done myself; I had 200 books printed with the Act on the top, small books, showing the sizes and weights of the various kinds of fish and I gave a copy to every fisherman that came to the market, and sent them up the country, and still the small fish comes in.
1161. Is it not quite possible by the use of the legal phraseology contained in these Acts of Parliament, that the fishermen become confused? Yes, just so.
1162. Would it not be better to have it put in plain language what he is liable for and what he is not liable for? Yes, and the same sort of thing should be done in respect to the size of the nets, and other matters, and the agents and everyone concerned could read for themselves and see the position they were in.
1163. You are under the control of the Fisheries Commission to a certain extent? Yes.
1164. Have they ever made an official visit to the market as a body? I have seen them once or twice.
1165. As a body? I do not think so. I have seen Mr. Thompson.
1166. He is not one of the body. Mr. Thompson is Chief Inspector. I mean the Board of Commissioners, there are five of them. Have you ever heard of any official visit made by the members of the Fisheries Board to the market? I have not; the only one I have seen there to my knowledge is Dr. Cox.
1167. Have you ever had any official intimation given you from the Fisheries Board suggesting any improvements in regard to the accommodation and the general mode of procedure that should be adopted in the market? No.
1168. *Mr. Thompson.*] Are the fish put into the ice-house cleaned? No, just as they come in.
1169. Would it be an advantage if all fish put into the ice-house were gutted and cleaned? Yes, and well dried; fish ought not to be put in until it is perfectly cool and dry.
1170. Do you approve of the mode which is adopted by the hawkers of dipping a bag in water and putting it wet over the fish? I do not indeed.

1171.

1171. You think it is an erroneous idea that it keeps the fish fresh? I am sure it does the fish harm. Mr. R. Seymour. 6 Nov., 1895.
1172. What becomes of the bad fish? It is taken out to Moore Park and destroyed by fire.
1173. Is not that rather a wasteful disposition, could it not be utilised for manure and oil? Of course it could. We had a man coming from Botany who used to get the whole of the condemned fish and made oil from it, but he gave it up, and as no one came for it now we have to send it to the tip. There were 6 tons sent there one morning, mullet, flathead, and other kinds.
1174. Can you tell us what price the man you spoke of got for his oil? I do not know.
1175. You have heard of no attempt to convert the residue into manure? No.
1175½. Do you wish to add anything further to the evidence you have given? I should like to mention in respect to the great complaints about the water that is brought from this pump up to us by engine power, one morning when I got a complaint I took a cup and washed it out clean and went to one of the taps and filled the cup with water and said, "Now to show you that this water is clean, I am going to drink it," and I drank it and I also took a bottle and filled that up and took it to the Town Hall and I said, "To show you that the water is quite fit to wash the fish in I am going to drink some"; I then filled a tumbler and drank that, and I am not dead yet. When I go to a bath I always make it a practice to have a good drink of salt water.

WEDNESDAY, 2 OCTOBER, 1895.

[*The Commission met at the Offices, Bligh-street, at 11 a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Mr. Henry Pearce, fisherman, William-street, Double Bay, sworn and examined:—

1176. *President.*] Your name is Henry Pearce—what are you? A licensed fisherman. Mr. H. Pearce. 2 Oct., 1895.
1177. Where do you reside? William-street, Double Bay.
1178. How long have you been engaged in the fishing industry? For twenty-eight years.
1179. Where have you carried on your operations? From Wollongong as far north as the Tuggerah Lakes.
1180. Where have you principally carried on your work of fishing? In Sydney Harbour, and the waters of Broken Bay.
1181. Does that include the waters of Woy Woy and Gosford? Yes, the whole of it, when you say the waters of Broken Bay.
1182. Are you connected with any Association? Yes, I am a member of the Fishermen's Benefit Society.
1183. How many members does that Society contain? About 140.
1184. Are they all financial members, that is paid up? I believe so.
1185. How long has that Association been in existence? Going on for five years.
1186. Is it not designated the Australian Fishermen's Protective Association? Yes.
1187. Does the word Protective mean that the Association looks after the fishermen in connection with the operation of the Fisheries laws? It is also to benefit the fishermen and the public.
1188. Do I understand that it comes within the functions of the Association to see no injustice is done to fishermen through the operation of the law? Yes.
1189. How often do you hold your meetings? Upon the first Saturday in every month.
1190. Have you a good attendance of members when meetings are called? Yes, very fair.
1191. Do you discuss matters in connection with the fishing industry? Yes.
1192. Has your Association at any time had under consideration a Draft Bill for the better regulation of the fisheries of the Colony? I believe not.
1193. Have they on any occasion petitioned the Government or the Commissioners of Fisheries asking that certain grievances might be remedied? Not that I am aware of.
1194. Has your Association ever formulated a list of grievances which might not have gone as far as the Government? I think so.
1195. During the discussions which have taken place at your meetings, have you ever heard the fishermen complaining of the hardships which they undergo owing to the defective provisions of the Fisheries Act? Yes.
1196. Could you enumerate any of the grievances they have? Yes.
1197. Will you please state those grievances? There is one thing we have brought forward in our Society, that when a place is closed against net-fishing, it should also be closed against amateur fishing; there is as great destruction among amateur fishermen as there may be amongst experienced men; but on our side the remedy can be effected by doing away with the sunken nets; they are a great destruction in our parts. The way places are closed at the present time does not afford us an opportunity of making a living, the places that are near being closed in the summer months, where, if we were allowed to fish, we could get fish to the market within a few hours of their being caught; but at present we have to go a long distance and use ice, and when the fish are unpacked they thaw, and shortly afterwards are rotten. Some places that are closed in the winter time are open in the summer The small mesh-nets should be done away with. I do not think it is fair that we should have our living taken out of our hands by the seizing of our nets; it is quite enough to inflict a fine without seizing our nets. I think the matter ought to lie in the hands of the inspectors, that is as to seizing the nets; if they know a man there is no necessity to take his net. If he is not known they might take his net as security, as in some cases of the Italians or the Chinamen who are not known, and who are all alike. The whole of the waters should be left open, provided a certain sized meshing-net was allowed to be used, and it should be left then for a fisherman and an inspector to decide whether it should be closed or open.
1198. Are you directly engaged in netting? Yes.
1199. How many are associated with you? Three, all told.
1200. What is your average catch per week? One week I may catch 50 or 60 bushels, and another week only 2 or 3—it varies.
1201. Where do you generally consign your fish? To Lawler.
1202. How do you send your fish? By train.

Mr. H. Pearce. 2 Oct., 1895.

1203. What kinds of fish do you catch? A mixture—all sorts of fish—bream, whiting, &c.
1204. How long have you been engaged in business in connection with the Woolloomooloo Market? Ever since it has been a market.
1205. Have you always consigned to an agent? Yes; always to the one agent since it started.
1206. Have you been satisfied with your returns? Yes.
1207. Have you any complaint to make as to loss of fish in transit? None whatever.
1208. Are you satisfied with the price realised for your fish? Yes; by the agent I send them to.
1209. Have you ever heard other fishermen complain in this respect? Yes.
1210. Have you ever heard them complain of losing fish in transit? Yes.
1211. Where do you think this pilfering takes place? It is hard for me to say.
1212. Do you consider, comparing the prices which the public have to pay for fish, and the price received by the fishermen in their returns for the sale of their fish, that the fishermen get a fair amount as the product of their labour? I have got a fair price; I cannot speak for others.
1213. Although the public pays at a very high rate for fish, you are satisfied that you get sufficient to compensate you for the labour which you are put to for catching your fish? Yes. On the other hand, I think the public pay too much for their fish at the present time—for if we had places open that are closed, we could catch a larger quantity of fish, and could sell at a lot less than we are getting at the present time.
1214. Do you think the fishermen would be satisfied generally if they received one-half of what the public pays for fish? If they got one-half, and got sufficient places to work, they would be.
1215. How do you send your fish to market? In baskets.
1216. Do you consider that is the best way? We have two ways: sometimes we have not sufficient baskets, and then we buy boxes.
1217. Which do you think the better? In the summer, the boxes are the best, as the fish do not get crushed.
1218. Are you satisfied with the charges made by the Railway Commissioners for the carriage of fish? Yes; they are very fair.
1219. Have you ever lost any of your baskets? Yes, we often lose a few baskets; but it is not the fault of anyone connected with the railways; it is the fishermen's own fault.
1220. Did you have any connection with the Co-operative Company started in Sydney? I was a member for a short time.
1221. Was it a success? I cannot tell you.
1222. Is it in existence now? I think not.
1223. You say you have had dealings with the Woolloomooloo Market ever since it has been a market? Yes.
1224. You are familiar with the way in which business is conducted at the market? I am perfectly satisfied with the agent I consign to, and I have given him my fish since it has been a market, and have seen nothing wrong.
1225. Do you think there is any room for reform in regard to the manner in which the fish are displayed? I do not see there can be any improvement made more than by elevating them off the floor a little; that is the only improvement I can see could be made.
1226. Is there not a well-founded objection to having the fish thrown on the floor in heaps and exposed for sale, as they are now? I think it could be carried on a bit better than that.
1227. Do you think the present system creates a prejudice in the minds of the public, and deters people from purchasing and consuming fish? If every agent was his own auctioneer it would be a lot better than it is at the present time.
1228. Have you ever noticed at the morning sales in the market people treading on the fish and spitting about? Well there may be a little treading on the fish sometimes, but I know Mr. Seymour is very particular if he sees anyone spitting about, and he has summoned people.
1229. Are you not of opinion that is one of the first things that should be attended to in having the fish displayed, so that it should not be contaminated by being trodden or spat upon in the market? Yes, it should.
1230. Have you known bad or rotten fish to be sold in the Woolloomooloo Market? I have known bad and rotten fish to be sold there; there has been during the last five years more bad fish sold in the market than in twelve years previously; owing to so many places being closed, it is impossible to get them into the market fresh.
1231. The fish being brought a long distance? Yes, packed in ice. They may be fresh when put into the market, but after being there for one or two hours, and then hawked through the town before they are sold, they go rotten.
1232. Would you advocate the opening of the market all day for the sale of fish? I do not think it would be any improvement.
1233. Do you think it would be better to have more than one sale a day? You might have an evening sale.
1234. Would it be better to give fishermen the opportunity of selling their fish at any time they arrive instead of keeping them ten or twelve hours? It would be much better if they could sell them straight away, the fish are not so good after being packed in ice.
1235. Would you advocate fishermen being allowed to sell their own fish in the market? Certainly.
1236. Do you believe in the establishment of a central market? Well I do not know; I think Woolloomooloo is sufficiently convenient for Sydney.
1237. If a market were established at Darling Harbour which would be accessible by road, rail, and water, would that be better? It would be very convenient for fish coming by rail, but for those using boats Woolloomooloo Bay is the best.
1238. Supposing the Woolloomooloo Market were allowed to remain—that would suit a number of people who bring their fish by water—would there be any objection to establishing a central market in addition at the Darling Harbour? It would be very convenient round Darling Harbour.
1239. Is it not a fact that most of the fish come by rail? Yes.
1240. And is it not a fact that the less handling the fish undergo the better it is for the condition of the fish? Yes.

Mr. H. Pearce. 2 Oct., 1895.

1241. Then taking into consideration all these circumstances, would it not be better to have a market centrally situated where all this extra handling could be avoided? It would be better for the fish certainly.
1242. Do you believe in establishing auxiliary markets for the better distribution of fish? Yes; you would dispose of a great deal more fish in that way.
1243. Have you any objection to the amount of the license fee which they charge you? No.
1244. Any objection to the boat license? No.
1245. Have you ever heard of the existence of a ring at the Woolloomooloo Market? Well, I have heard of the existence of a ring, of course; I do not bother my head about such things.
1246. Do you think there is a likelihood, on occasions, of the agents working in with the hawkers? Some of them may do it; but my agent does not do that.
1247. Have you ever heard fishermen complain of their having sent fish to the Woolloomooloo Market, and the best of those fish have been taken out and sent away to the country, without having passed through the market at all? There is no doubt it is done; but I cannot prove this.
1248. Have you also heard it complained of that whilst the best of the fish have been sent to the country and sold at a good price, the fishermen have received a return based on the price which they have received for the inferior fish? Yes; there is no doubt it is done.
1249. Does that not convince you that there is necessity for reform? I think by allowing the agents to become their own auctioneers you would remedy all these things.
1250. Have you ever sent fish to the Redfern Market? Never yet; only to the Woolloomooloo Market.
1251. Supposing that a system were recommended of gutting fish before sending them to market, do you think that would answer? Yes; the fish would keep a lot longer by doing so.
1252. If the fisherman received a fair advance on the price he now receives he would take the trouble to gut them? I think so.
1253. Have you ever sent any fish into the interior? Never.
1254. Do you think there are possibilities for sending fish in large consignments into the country? Yes; I think so.
1255. Do you think if the Railway Commissioners placed a van having a cool chamber in it on the line, the fishermen would avail themselves of that means of sending fish into the country? I think they would take the opportunity of doing so.
1256. Looking at the population of the Colony, do you think there is as much fish consumed as should be? No; I am sure there is not. When I first went fishing there was three times the amount sold in the city to what is sold at the present time; owing to so much rotten fish being sold these last few years it has poisoned the public mind against buying fish.
1257. You think if the fish could be relied upon being fresh——? There would be three times the quantity sold, and the fishermen ought also to get a better return.
1258. Where did you say you principally carried on your operations? Between Sydney Harbour and Broken Bay; but I have also worked from Wollongong to the Lakes.
1259. Have you fished at Woy Woy? Yes; a good deal
1260. What is your opinion of those grounds? That they are teeming with fish at the present time.
1261. Are they closed at the present time? There is about a mile open for every 10 miles closed; it is not sufficient ground to work.
1262. Do you think, then, more waters should be allowed to the fishermen? I think so.
1263. Do you think all the closures that are made are justifiable? I think not.
1264. Do you think in connection with those closures that they could be said to be the recommendations of practical men? I think a practical man should be allowed to give his opinion as much as the inspector or the Commissioners, that he should be present as well.
1265. In connection with the closures that have been made, have they all been made on the recommendation of practical men? No; Brisbane Water has been closed because it was said it was becoming exhausted, and we can prove that the last two months it was open, more fish came out of it during those two months than for the last fifty years, which is well known by a practical man named Richardson. There could still be any quantity of fish got out of it if we were allowed to work it. If we were allowed to work with nets that were not destructive there would be no harm to the place, and that is not the only place, there are plenty of others too.
1266. You were only allowed to work between the expiration of the last proclamation and the gazetting of the present one? Yes.
1267. How long was it closed on the last occasion? One part was closed for twelve months, and the other for six months; it has not been opened for longer than two months at any time during the last eight or nine years.
1268. Does it not strike you as proof of the value of a closure that after it has been closed for twelve months you are enabled to get in two months a supply of fish that has never been equalled before? No; it is a place where there is always plenty of fish, it is never short of fish.
1269. Did not the Commissioners leave some portion open for the fishermen? Broadwater is now left open, but that is not sufficient.
1270. In connection with the last proclamation, did that not leave some portion of the entrance open? Yes, they did.
1271. Would you, as a practical man, advise that a closure should be made as that was made, leaving the breeding grounds protected, but leaving an opportunity for fishermen to prevent the ingress of fish to breed? The fish in going in cannot be caught, fish always work one way; they go in left handed, and leave left handed; they can catch them going out, but not coming in. In Sydney harbour you can catch them both ways.
1272. Supposing a channel led into a lake system, and supposing all the lake system is closed, and the channel open for fishermen to scour and scrape out, do you think it a justifiable opening? On the channel it is all tide work; the fish can come up when the tide is running up, and out when the tide is running out, and cannot be caught until slack water, anywhere about the entrance up as far as the Heads, you cannot haul the channel for more than a quarter of an hour every six hours. There are bays where you were allowed to haul just near the entrance; you will have to go out of the narrows before you can get a haul, you can get about one haul at low water; when you get out of the channel you

Mr. H. Pearce. 2 Oct., 1895.

have a better opportunity of making two or three hauls. The heads and bays are the places that should be closed, not the channel, in the channel you will only find very small fish.

1273. Have you worked the Parramatta River at all? A great deal at one time, as far as you can go with a boat, as far as Parramatta.

1274. The river has been closed for net-fishing above the railway bridge for some considerable time, has it not? Yes.

1275. What do you think of the fish supply of Port Jackson compared to what it was some years ago? They are scarcer now than ever they were, owing to the traffic that is carried on, the increase of sewage matter, building wharves, the explosion of torpedoes let off down at the fortifications, and the blasting that is carried on which causes the destruction of any amount of small fish. The weed the fish used to breed in and feed on is all killed with sewage matter; in the Parramatta River at one time you used to be up to your knees in weeds. Lane Cove used to be nothing but a mass of weeds where bream, garfish and all other kinds of fish used to breed. If you destroy the natural feed you cannot expect to have fish. The fish that are caught in the harbour are fish that are watched by fishermen and go in one side and out the other—mullet, bream, garfish, whiting and all kinds of fish like that come in and go out again, they are migratory fish. Middle Harbour is the only place that has weeds and breeding grounds, there is no sewage matter that kills the weeds, where you find the weeds thickest there you find the fish thickest.

1276. What nets do you use in the capture of your fish? All sorts of nets, at the present time a garfish-net, one of the most destructive there is.

1277. What length? Ninety fathoms.

1278. No longer? Well, a fathom or two sometimes; the Act says 150 fathoms; you can have 150 fathoms not more than 30 fathoms of 1¼ inches, not less than 30 fathoms of 2 inches, it would not do for me to have less.

1279. Any other nets? A meshing-net and all sorts of nets.

1280. What is the mesh of your meshing-net? Four inches.

1281. What length? Sixty fathoms.

1282. Do you use the 2¼-in. hauling-net at all? No; we do not consider that a fair size for catching fish.

1283. Which net do you consider the more destructive, the hauling-net or the garfish-net? Sunken nets are the most destructive, and a garfish-net can be made into a sunken net.

1284. The smaller net does more damage to the young fish? Yes.

1285. Have you ever noticed when using the hauling-net that a quantity of small fish get meshed? Yes.

1286. What sorts? Little red bream or black bream, a saleable whiting would go through a 2¼-in. net.

1287. Then supposing you had made the same haul with a garfish-net that you made with a hauling-net, would there be the same likelihood of destruction of the black bream and red bream, or would they be saved? You might save them; but if you got them on a hot flat in the summer time, when the water is hot, you would be sure to kill them.

1288. Do you strand your fish? Yes.

1289. Do you not use a back-net? Yes; but you cannot land your net, where there is a drawback, in a foot of water; there may be a break of 3 or 4 feet on the beach; one minute you may be dry-footed, and the next 10 or 20 feet up.

1290. Would you be one to leave it to the discretion of local authorities to decide where these nets should be used—to local authorities, such as a Board, to recommend what descriptions of nets should be used in the different waters;—I am speaking of a Board on which the fishermen would be represented? Yes; I would be satisfied.

1291. In connection with the hauling-net, do you think the fishermen have any *bona fide* grievance in respect to that? I think a 2-inch mesh for a bunt, with 2½ wings, up to 90 fathoms, would give the fishermen a fair opportunity of catching saleable fish.

1292. Ninety fathoms in the wings? Thirty fathoms of 2-inch, and thirty of 2½-inches.

1293. That is a hauling-net? You can make it up by filling it up with 3-inch, 30 fathoms in the bunt of 2-inch, 50 on either side, middle wings 2¼-inches; and if you want more, make them have 3 inches on the outside wings, up to 150 fathoms, in the Hawkesbury. In lakes you might give them 300 fathoms.

1294. You would leave it to the local authorities to decide, what length and mesh should be used in the different places? Yes.

1295. Have you ever used a sunken net? Yes.

1296. Do you consider it advisable that they should be allowed? As long as they continue with the small mesh they should be done away with.

1297. Do you know whether any of the European fishermen use them. Very few.

1298. Are they used mostly by Greeks? Yes; Greeks and Italians. I think they should be done away with in hauling, everywhere; there should be certain waters left open for prawning. Speaking for this harbour, Johnson's Bay is not of much value for other kinds of fish, and it is about the best that could be picked for prawning, and they would not be destroying so many little fish if it was left open for that purpose. You see by them hauling all over the harbour they are destroying small fish; if they get one flathead or a sole in a haul they are satisfied. They say they are going for prawns, but they go for all they can get.

1299. You think they kill a number of the fry, and destroy the breeding and feeding grounds? Yes.

1300. You think the European fishermen are opposed to that heavily-weighted sunken net? Yes.

1301. As to the meshing-net, are you satisfied with that? I believe in doing away with meshing-nets altogether; they don't get half-a-bushel on an average, and they frighten the fish out of the water by using meshing-nets. They are the most destructive nets for frightening fish; you don't catch them, you frighten them.

1302. Do you think the dimensions of the prawn net are satisfactory, have they got sufficient length? I think so, I think they can get plenty to supply the public of Sydney out of the place I have mentioned.

1303. Do you think that whilst we are allowing prawns to be caught we are diminishing the feeding grounds? I do not think so with reference to the place I have mentioned.

1304. Have you noticed swarms of black bream coming into the harbour? Yes.

1305. Have you ever noticed whether prawns preceded them or not? I have seen the prawns come in at times but cannot say whether it is before or after; I have seen the small prawn very thick at times in patches.

Mr. H. Pearce. 2 Oct., 1895.

1306. In connection with closures, you have made a complaint that the closures that have been made have been unjustifiable ones, insufficient waters being allowed for fishermen to carry on their calling? Yes.
1307. Would you be inclined to leave the matter of determining what closures should be made to a local board on which fishermen should have representation? Yes, if the fishermen were represented.
1308. You think then that a knowledge of local circumstances would be a very great advantage in deciding what closures should be made? Yes, we do not want to work against our own interest, we want fish to breed so that we can remain fishing, not like the Italians who make all they can and clear out. We want to stay, we have children to look after who may come after us—we do not want to destroy but to protect the fish.
1309. Do you think the Inspectors in connection with the Fisheries Department are practical and suitable men? I know of one or two only.
1310. Would you secure the services of men who understood the subject and have a practical acquaintance with it? One or two that I know I have not known them to be fishing for the last fifteen or sixteen years and another man for the last twenty years.
1311. Is it not a fact that the conditions and circumstances connected with different fisheries vary? Yes.
1312. So that you would approve of the establishment of a local board on which the fishermen should have representation for the purpose of advising the central authority as to matters of closure, as to matters of length and dimensions of nets to be used, and in connection with other matters pertaining to the fishing industry. Do you think that would be a good thing? Yes, I think that would be a good thing.
1313. Would that do away with the complaints that the fishermen have at the present time against Inspectors recommending closures unjustifiably? Yes.
1314. Do you approve of the leasing of waters for general fisheries? No, I do not believe in it in anyway, not in anyone holding a monopoly.
1315. You think it would tend towards monopoly? It would not be fair, it would always cause a jealousy.
1316. Do you believe in licensing amateur fishermen? No, we do not believe in making them pay a license, by giving them a license it would give them a chance of having the same voice in matters as a practical man; I would not license any amateur.
1317. Supposing a provision were incorporated in a Bill preventing the interference of amateurs with the professional fishermen, would you have any objection then? I think it would be unjust; you might make the people that let boats to amateurs pay a license for their boats, but not license the amateurs.
1318. Do not a lot of people fish from boats who sell their fish? There is no doubt there are; but they do not let the professional fishermen see them.
1319. If the Crown takes upon itself the responsibility and expense of closing certain waters, and affording certain protection to those waters, those who derive the benefit should pay something towards the cost of protecting, should they not? I do not think they should have the benefit when the professional fisherman is not allowed in it.
1320. Would you approve of the professional fisherman being allowed to go and enter closed waters under certain conditions? No; if a place is closed no one should have any right there with any sort of net or lines.
1321. For instance, would you approve of the use of a meshing-net in closed waters? No; certainly not.
1322. You believe in rigidly adhering to the principle of making a closure, and keeping it closed? Yes; from everyone, from line as well as any other, from amateur as well as professional.
1323. Do you think the amateur fisherman does an injury to the fisheries? The amateur fisherman, as you may learn from Mr. Piggott, catches seventeen dozen of whiting, which do not fill a bucket, and when that number can be caught with lines, how many will fifty or 100 boats destroy? I cannot think it should be left open for line-fishing, they destroy more than we do with nets.
1324. If people were punished for having undersized fish in their boats? If that were done you would want about 100 inspectors for every place to look after them; you cannot do it. There are hundreds of people sometimes in the summer fishing, and how can one or two inspectors look after them; it would be a trap for the public.
1325. Supposing we imposed upon the boat proprietor the responsibility of seeing that no small fish were brought in by those boats? Well, it is this way—if an amateur fisherman comes in with his boat, he is not going to let the boat proprietor see what he has in his bag, and he may have a lot of small ones.
1326. Supposing we give him power to search the bag, or anything else he has, to see whether he has undersized fish? I do not think it would do; the best thing, if a place is closed, is to close it against the amateur and everyone else.
1327. Supposing a certain clause regulated the amateur fishing by prescribing a certain sized hook to be used? That would not do; I have caught small fish with a No. 5 hook, even a black bream hook will catch a fair-sized fish. You cannot regulate it with the hooks.
1328. Would they not be as likely to catch the small fish outside a closure as inside? Yes; just as likely.
1329. Can you see how that can be avoided? No, I cannot; if a fish gets on their hook they must haul it up.
1330. But it would live if cast into the water? But the chances are he would die, as the fish is not the same as he was after the prick of a hook; it must leave him sick when you take it out of his mouth. If they are thrown in out of a net where they are not pricked, they have a better chance of recovering than if they had been hooked.
1331. Have you ever heard of fishermen complaining of having their nets seized? I have heard of them.
1332. Have you ever heard of them being deprived of their tools of trade, which might have cost them £30 or £40, owing to the action of the inspectors? Yes.
1333. Do you believe in giving the inspctors half the fine? I do not.
1334. Do you think it acts as an inducement for the inspector to act harshly? Money will always encourage a man to do what he would not do otherwise.
1335. You think their salary ought to be sufficient for the duties they perform? I think so.
1336. Do you think the inspectors ought to have the right of issuing licenses to the fishermen? I think it is right enough as it is; they know who have licenses and who have not.

Mr. H. Pearce. 2 Oct., 1895.

1337. You are satisfied because you are within the metropolitan area, but do you think people living 50 or 100 miles from the Clerk of Petty Sessions should be allowed to pay their license fee to the inspector? Yes, in that case.
1338. And it would be a good thing for the purpose of identification, the inspector would know to whom he had issued licenses? Yes; he would know who were licensed men and who were not.
1339. Have you done any outside fishing? Yes.
1340. Where? Along the coast, I have been schnappering all along the coast.
1341. Have you found schnapper pretty prolific? Yes; off the Heads.
1342. Do you think there is a general scarcity just off the immediate coast line? Yes; just off the Heads.
1343. How is that? I think it is on account of so much rubbish being taken out of the harbour—it has filled all the crevices in the rocks where the fish resorted to, it has killed their feed and driven the fish away.
1344. Have you brought whatever fish you have caught to market? Not all of them; I sell a few round my neighbourhood.
1345. Have you ever tried the well-boat system? No, never. I have been amused with accounts I have seen from time to time respecting herrings; the catching of herrings outside the harbour I do not consider possible on account of the numbers of sharks. I have used a trammel net which cost me a considerable sum of money, the net was set edgeways with the tide as for net-fishing outside the Heads, but it would not answer.
1346. But it is carried on successfully in other parts of the world? There are no sharks.
1347. There are sharks all along our coast? Yes, at any time you like.
1348. The season for sharks is in the summer? In the summer they are most plentiful of course; but in the winter there are almost as many.
1349. Have you ever seen herring travelling along the coast? I have seen the pilchard, but not herrings.
1350. Have you not seen the southern herring, that has its habitat in the Crookhaven and Shoalhaven Rivers? I have seen what they call the herring, but they are not like the English herring—they call them pilchards or maray, we used to call them pilchards; they used to be plentiful in the Hawkesbury at one time.
1351. Do you think it would be possible to carry on trawling outside the Heads? I do not think so, there are too many rocks.
1352. Would it not be well to have a proper survey? If you look at a chart you will see that you cannot go far without coming foul of the rocks; and again, the fish you would catch would be stingaree and cat-fish; very few flathead and flounder. Our principal fish lie among the rocks—schnapper, jew-fish, rock-cod, all these fish lie among the rocks. I have seen trawling tried, but have seen no good result from it; trawling was tried about forty years ago by a man named Malcolm.
1353. As to the oyster fisheries, do you know anything about them? We know where there used to be a good place for oysters at one time, but not now.
1354. Have you ever held any leases? No, never.
1355. So you would not be competent to give an opinion as to what system should be adopted as to the giving of leases? No.
1356. Have you ever had any transactions with the Commissioners of Fisheries? We waited on the Commissioners at one time to get a larger portion of the Parramatta River opened.
1357. Did they accede to your request? Yes.
1358. How long after? A week or fourteen days afterwards,
1359. Do you think it was owing to their disposition to grant your request, or owing to the fact that the whole of the closures had been illegal for years? The fish had become thick, and it was only open then as far as Hunter's Hill; and we got them to open it up as far as Ryde Bridge, and a fair quantity of fish was got out of it.
1360. Have you ever attended any other deputations to ask for assistance? No.
1361. Have you ever heard the fishermen complain of the Commissioners, or express the opinion they should be retained or abolished? We have heard lots of things; that they should remain; and, on the other hand, they should be done away with. I do not think they should be done away with; someone should be allowed to look after the fishermen and the public interest.
1362. Granting it is necessary for someone to look after the public interest, do you think it essential to retain that body; do you think the fishing industry has been properly developed under the present regime? The only thing I can say in connection with the present Commissioners is, that if they had had a fisherman—one or two as they chose—to give a little information, things would have been carried on more satisfactorily.
1363. You think the members of the Commission have not been competent to take an intelligent view in respect to the fishing industry, on account of their not having practical experience? I think if practical men had been on the Board things would have been carried on in a proper manner.
1364. You think, then, that if local Boards were established, on which fishermen would have representation, and say one gentleman was placed in charge to administer whatever Act is passed, that that would be satisfactory, taking it for granted that the person to be appointed as Commissioner would be a man having a thorough acquaintance with the fish and fisheries of the Colony? A practical experienced man should be appointed on the Board as a Commissioner.
1365. And you think, instead of these gentlemen giving their services free, as do the present Commission, you should have one paid man at the head of the whole thing? Well, I do not know; my reason for saying we should have a practical man on the Commission, is that when a place is being inspected for the purpose of seeing whether there is a scarcity of fish, he should be in attendance.
1366. Would that not be a matter that should come within the functions of the local Board to advise, and then if there was a dispute the Commissioner could go down and inspect the waters for himself? What, the practical man?
1367. Yes? I am sure in some places that have been already closed on the recommendation of someone, that it is owing to false reports. Brisbane Water has been closed, it is alleged, through becoming exhausted, and there is more fish coming out of it within the last two months than was ever known before and it would save those false reports by having this fisherman.
1368. By having the local Board, you mean? Yes.
1369. You say that your Society has monthly meetings? Yes.

1370. Was the existence of this Royal Commission known to your Society at all? Not that I am aware of. Mr. H. Pearce.
1371. And not to any individual fisherman comprising it? No; not that I am aware of, I knew nothing about it. 2 Oct., 1895.
1372. You are entirely under a misapprehension in supposing this body and the Fisheries Commission are the same? I thought if we were required to give evidence we should get notice from the Commissioners of Fisheries.
1373. *Mr. Thompson.*] Have you read the Bill prepared by this Royal Commission? Yes; some of it.
1374. Have you arrived at the conclusion that very many of what you term the abuses under which you labour are cured by this Bill? I have already pointed out there is one class prohibited from killing small fish, and the other is allowed to kill them.
1375. Where is that? The amateurs.
1376. I think you are wrong, this Bill specially provides that if any person whatsoever, be he fisherman or amateur, shall have in his possession, or in his boat, any fish of less than the prescribed size, he shall be liable to punishment. That disposes of your objection that the fisherman is treated in one way, and the amateur in another. And then again this Bill provides that any waters may be closed against the use of fishing-nets or lines or both or either, so that amateurs will be precluded from fishing in closed waters to quite the same extent as the professional fishermen. Therefore, when we close a water against the use of fishing nets it can be closed against the use of fishing lines also. Then before we close a water at all we close it on the recommendation of the local fisheries Board, that is provided for. This local fisheries Board must make the recommendation before it can be closed. Have you any further objections? I think that any place that has to be closed should have at least six months notice of it.
1377. That is a matter for regulation afterwards? It is very hard upon the fisherman who has rigged up a net to suit a place, and has gone to the expense and trouble to suit that special place and then by the place being closed to lose his money.
1378. You have said you would disallow the use of meshing-nets in closed waters under any conditions. You are assuming the ordinary use of the net, and as you correctly say you disturb more fish than you catch. That is not the way proposed by the Royal Commission. You know that in closed waters there are a number of fish fit for consumption left there doing no good, and they might just as well be caught in the closed waters as left to wait for a flood to drive them down into open waters where they can be caught; you know that a flood will drive them down. Now, we have conceived an idea for the capture of these fish while in the closed waters; we propose to take a net and cast it from a boat into the water and, allowing these fish to mesh in this net, to haul it back into the boat without touching the shore at all—no noise is made, nor are the young fish disturbed in the feeding grounds? Ninety-nine times out of a hundred that net would not be shot in the manner laid down in the Act; I would be one of the first to set it in the way it would splash and make a noise.
1379. But under the mode of supervision that would obtain it would make it very difficult for you to do this, nets would not be allowed to be used in this way except under official oversight and special conditions? You could be within 20 yards of me and I could deceive you; I could make the same noise by putting a ring or chain on the end of the pole, and if you came to me I could say I was merely poking my boat along.
1380. I do not think so, but our object is to deal out all the benefits we can to honest *bona-fide* fishermen; we cannot suppose you would lend yourself to such fraudulent action as you have suggested? But surely there are no fishermen who recommend the use of a meshing-net in closed waters?
1381. All have approved of it? Then they must be men who would not go away from the smoke of their own house.
1382. There is another point about the length of the nets; the Commission does not propose that the length of nets should be set down by hard and fast legislation. Their Bill provides that the lengths of nets and dimensions of meshes may be fixed to suit any specified water, and that would be a matter for determination by a local board to which the fishermen would elect a representative. The Commission recognise the fairness of relieving the fisherman from all the difficulties he labours under, and that is one of the lines on which the Bill has been prepared. You know the inconvenience you suffer from the seizure of nets. This Bill does not allow the seizure of a net, it relies on fines and no net can be seized. Have you ever heard of any legislation as liberal as that. And if you read the Bill impartially from beginning to end, we think you cannot be otherwise than satisfied and be willing to signify your approval to its provisions generally? So then meshing-nets may be used where we cannot use any other sort of nets as Mr. Farnell mentions, at the Hawkesbury for instance, but in most places meshing-nets are, I think, most destructive.
1383. *President.*] Where a local board would recommend, you would have your voice in the matter as a fisherman, but on the Hawkesbury, if circumstances warrant it, you would say "Oh yes allow it"? Just so.
1384. *Mr. Thompson.*] Respecting the use of meshing-nets, this Bill provides that they may be used under conditions to be from time to time specified by the Commissioner, but they must be cast from and hauled into a boat. It is not contemplated that they shall be used at all in the ordinary way in which meshing-nets are worked? Just so.

Mr. Peter Richardson, fisherman, Ferry-road, Glebe Point, sworn and examined:—

1385. *President.*] Where do you reside? Glebe Point. Mr. P. Richardson.
1386. Are you a licensed fisherman? Yes.
1387. Do you also hold a boat license? Yes. 2 Oct., 1895.
1388. How long have you been licensed? Ever since they were in vogue.
1389. How long have you been engaged in the fishing industry? About thirty-three years.
1390. Where have you principally fished? About equally right through, part of the time here, and at the Hawkesbury River, and then at Gosford.
1391. Can you tell us whether the provisions of the present Fisheries Act operate harshly or not on the fishermen? Yes, it does.
1392. Do you think there is room and necessity for reform in that direction? Yes.
1393. You have heard the evidence given by Mr. Pearce here to-day? Yes.
1394. Do you agree with the evidence he has given? Yes.

Mr. P. Richardson. 2 Oct., 1895.

1395. Do you think he has spoken and given his evidence in a manner which can be considered to be of a representative character? Yes.
1396. Is there anything you would wish to add to his evidence? No, I cannot see there is anything I could add to what he has said.
1397. Are you satisfied, having heard the proposed legislation explained to you, that the Bill proposed by this Royal Commission is a little more liberal than you expected? Well we have not read the Bill right through, they are a little more liberal than we thought they were.
1398. Are you a member of the Fisherman's Benefit and Protection Association? Yes.
1399. Were you aware of the existence of the Royal Commission to inquire into the fishing industry? I heard something about taking evidence, but did not know what it was and was expecting to get notice from the Fisheries Board if I was to go.*

Mr. Robert Vine, fisherman, Double Bay, sworn and examined:—

Mr. R. Vine. 2 Oct., 1895.

1400. *President.*] Your name is Robert Vine, what are you? A licensed fisherman.
1401. And a boatman? No, not a boatman.
1402. Where do you reside? At Double Bay.
1403. How long have you been engaged in the fishing industry? Twenty years.
1404. Where? Sydney Harbour and Broken Bay.
1405. Have you a good knowledge of those fisheries? Yes.
1406. Have you heard any complaints made by your fellow fishermen as to the provisions of the present Fisheries Act bearing harshly upon them? Only in the closing line, and the seizing of nets in closed waters.
1407. Generally have they complained of the provisions of the Bill being defective? Well, yes it is defective.
1408. Do you think there is room for reform? There is room for improvement.
1409. Have you read the proposed Bill of the Royal Commission? No, I have not.
1410. After having heard some of the provisions explained this morning do you consider it is a Bill of a character that should be passed? Yes, I think so.
1411. You have listened to the evidence of Mr. Pearce, are you satisfied that he has given *bonâ-fide* straightforward evidence, and do you agree with the evidence he has given? Yes, I do.

TUESDAY, 19 *NOVEMBER*, 1895.

[*The Commission met at the Offices, Bligh-street, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq., M.P., President.

L. G. THOMPSON, Esq., J.P.

Mr. Herbert Lewis Bridger, Trafalgar-street, Annandale, sworn and examined:—

Mr. H. L. Bridger. 19 Nov., 1895.

1412. *President.*] What is your name? Herbert Lewis Bridger.
1413. Where do you reside? Trafalgar-street, Annandale.
1414. How long have you been in the Colony? Ten or twelve years.
1415. Prior to that had you any experience in connection with trout raising? Yes; some twenty-five years' experience.
1416. Where? Principally on the Marquis of Abergavenny's Estate at Erridge, in Sussex; I was also with Mr. Ramsbottom, Croboro' Warren; and with other gentlemen, my services being availed of by different persons living in the vicinity of the place where I was employed.
1417. What classes of trout did you rear? Brown trout and rainbow trout.
1418. Did you find the brown trout the hardiest of the lot, the best to cultivate? I believe they are the best to cultivate; we used to cultivate them splendidly; our hatching principally used to be done in water-races. There is not a better thing going than water-races if properly managed.
1419. About what quantity of trout did you use to rear? We never counted them, we reared large quantities.
1420. Did you distribute them to other parts of England? No; sometimes we would take yearlings and place them elsewhere in distant positions.
1421. What river ran through the estate you refer to? Several small streams, feeders to the Tunbridge River.
1422. Do you mind explaining the process you adopt in hatching trout? Yes. In dealing with the rivers of our Colony for the purpose of trout culture, knowing the terrible nature of the flood-waters, the shifty sandy bottoms and swift undercurrents to be contended with, I have no hesitation in saying that only an experienced man, who knows his business, and will do it, can succeed; and on this alone hinges the success of trout culture. Without constructing expensive weirs or dams of a permanent character, a simple method—"battening" or "break-water"—might be adopted, by which the under-current may be dealt with successfully. I have seen twenty-six trout taken out of a river within an hour after a 2-feet plank had been secured in proper position; the water at this time being not more than 3 feet above the fish, and I unhesitatingly affirm that on this principle alone can success attend any efforts. The absence of this principle has been nearly the sole cause of failure, there being no protection from flood-waters for the young fry, which are consequently drowned; and, in all cases, this principle must be acted upon, in the absence of work of a more permanent nature. At Bathurst and on the Monaro, there are said to be trout. Had a man been placed at those places who understood "fry-nursing," and dealt with the rivers in a practical manner, the Macquarie and Monaro waters would be teeming with trout. If this suggestion be carried out, and a good season ensue, 50,000 trout would, in all probability, be added to their numbers.

Supposing

* Note (*on revision*):—I and the other fishermen who gave evidence before the Commission strongly favour the immediate passing into law of the new Fisheries Bill prepared by the Royal Commission.—P. Richardson, 6th November, 1895.

Mr. H. L. Bridger.

19 Nov., 1895.

Supposing that the man in charge will have time to get his own ova and hatch on the American principle,—select a spring, hang the trays in the water, and bring the current of water up from beneath; then the under-current floats off the addled eggs, which are caught and thrown away without trouble. When the trout are on the point of hatching, place the trays in the waters that have been prepared to receive them. Now, without any guiding hand to assist the almost helpless creatures, there are many enemies that exist; such as eels, shags, ducks, wild-fowl, swans, &c., to root up the spawn;—for one swan will eat 30,000 ova in a day, if not disturbed. But the greatest enemy of all in this river at present, is the shifty sandy bottom—gravel or shale bottoms excepted. This, in most cases, covers the whole of the spawn, and the entire season is lost without any possibility of recovery. Under the circumstances, and as I understand, it is from want of funds, or the above conditions could be carried out, I should advise a cessation of operations in that direction, and to turn your attention to Berrima (as recommended by Royal Commission, page 41.) One season of operations there would in all probability establish success. Roughly, about £50 would be ample for a two-roomed weatherboard house and utensils for hatching on the American principle, as described. Get a spring, if possible in close proximity to the river for the hatchery; erect the shed with sapling and thatch, and the hatchery is complete. This is the best method for river purposes, apart from the main hatchery—the safest and most convenient that I know of—and removes the otherwise difficult solution as to temperature. I do not mean to abandon the Prospect hatchery by the above process; but I think if large numbers of trout were hatched there, the necessity of removing the fry as quickly as possible is apparent to all. The difference in temperature, if left to a later date, would affect the young trout materially, and great numbers would die from this cause.

1423. *Mr. Thompson.*] Have you seen anything of the method of trout culture as practised in New South Wales? No; but I know what it is.

1424. Do you approve of the system? Certainly not; it is not possible for success to attend it.

1425. Why? To make it possible you must put a man on the river,—the shifty nature of the rivers—the rushing torrents—makes it impossible. Supposing you turn 10,000 trout out into the rivers, about 9,500 would be drowned by the flood waters.

1426. Is that owing to the tender age at which they are put out? Yes; they are put out when they are not fitted to protect themselves;—it is like putting a child in a nursery, and leaving it; they must be assisted. Then the temperature of the water where they are now hatched is different to that of the rivers in which they are placed.

1427. Do you approve of the liberation of trout in the fry stage? Undoubtedly not, under certain conditions.

1428. What are the conditions? Such as those I have referred to; there must be preparation made for receiving them.

1429. What kind of preparation? You must control the water.

1430. How would you control the water of a river? Well, the rushing torrent going into a river off a hill-side will drown half your trout; they need proper protection. Barriers could be erected at certain places to check the great flow of water.

1431. Are you not aware that our rivers contain boulders, rocks, and so forth, and that these boulders form a natural protection for fish? No, they do not so much.

1432. What rivers have you been on? The Nepean and the Hacking River.

1433. Then that is all your experience. Have you seen the Nepean River at Picton? Yes.

1434. Would that be a good place for trout? Yes; it would.

1435. But there the conditions you propose to create artificially exist naturally? Yes; that is so.

1436. You have been accustomed to rear trout in races? Yes.

1437. What attention did you give them;—for instance, when they were hatched how did you get rid of the egg shells? When they are reared you have to watch them as carefully as you can.

1438. Why is it, in your opinion, that races are preferable to hatching boxes? I did not say so only under certain conditions.

1439. Have you seen the hatchery at Prospect? No; I tried for a pass, but they would not give me one.

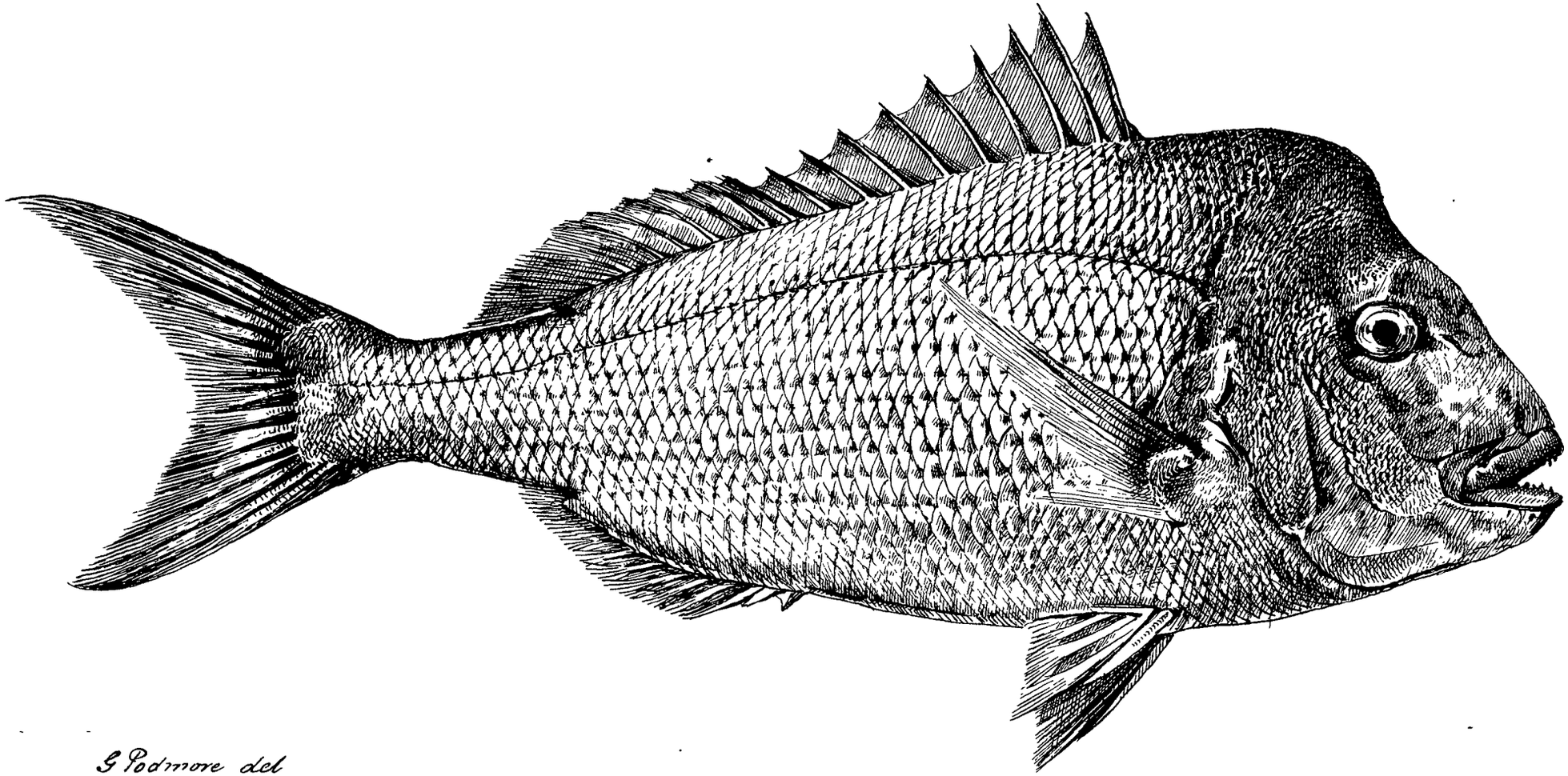
1440. Whom did you ask? I asked an officer at the Department; I was told Mr. Smithers would give me one, but he has not done so. I am acquainted with the hatchery at Prospect through reading an account of it in the newspapers. It is on wrong principles; it is iron-topped where it should be thatched in order to make it as cool as possible. The trout there will die. I saw an account in the paper which said there were 3 or 4 feet of water in the ponds; young trout abominate deep water. I think Prospect is not a proper place for a trout hatchery; it is too hot.

ABBREVIATED DESCRIPTION

OF THE

Principal Food Fishes of New South Wales.

ILLUSTRATED BY PHOTO-LITHOGRAPHS.



G Podmore del

(326-)

SCHNAPPER.

(*Pagrus unicolor.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE SCHNAPPER; Aboriginal Name, WOLLOMAI.

Family, **Sparidæ**; *genus*, **Pagrus.**

Colours.—Varying with age from silvery red in the young to bright red in the adult, the upper parts of which, especially the head, are tinted with brown; the abdominal region is pinkish or silvery; the body is ornamented with pale blue spots, which are numerous in the yonng and entirely disappear in very old examples.

It may be fairly presumed that this fish is known to almost every one in the Colony, and often recognised in the adult state, and when just caught, as the ideal of a fish, representing beauty to the eyes, sport to the fisherman, and a firm, palatable, wholesome, and nutritious food to the multitudes. No party of amateurs who go out for a day's general fishing think their basket complete without schnapper being among their number,—that name floats uppermost in calling over the day's sport, and covers many defects in other fishes which may happen to be in the list of the day's catch, and indicates, as a rule, that the sport was fair and good.

Although by comparison some would imagine there were more than one of the same species along our coast, it is not the case; the mere difference of shade in colour, or lanky or chubby appearance are in all probability caused by the abundance or scarcity of the feeding grounds. The schnapper is migratory, and omnivorous. It frequents all reefs, bomboras, and foul grounds along the whole extent of the coast.

The usual grounds fished in the vicinity of the Heads of Port Jackson are numerous, for example may be named South Reef, North Head, Blue-fish, Colours, Pine-tree, Tumble-down, and Mud Island, and the wide or Maori grounds in deep water, all of which places are known to fishermen by bearings of land-marks, but they are not nearly as prolific as they were years ago.

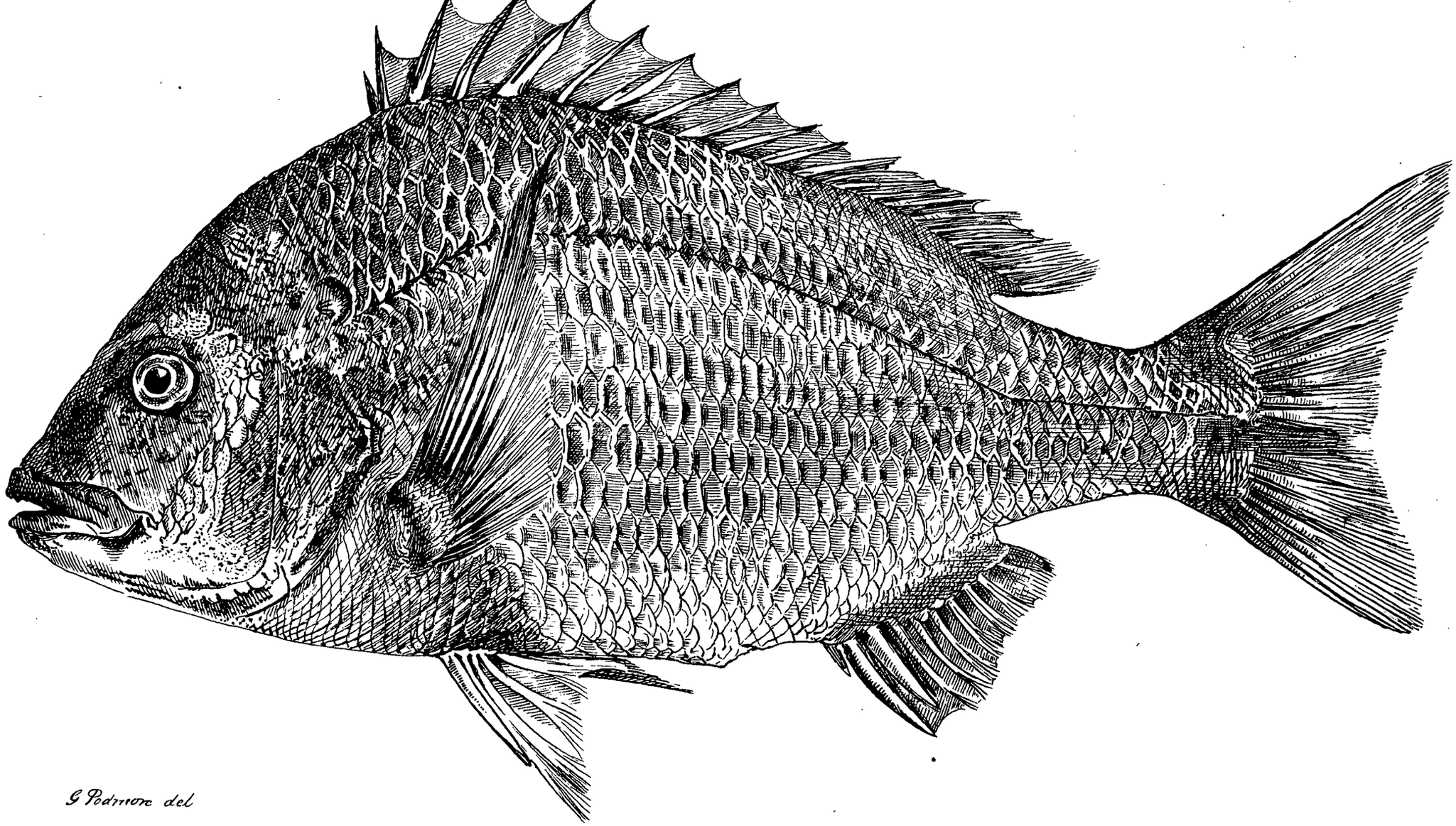
The usual method of apportioning quantities for sale by the fisherman is, by the schnapper or count-fish, school-fish, squire (among which, so named from its metallic appearance, is the copper-head or copper-colour), and red bream. The fact, however, is that all these are one genus, merely in different stages of growth.

By the term schnapper, or count-fish, is implied that all of a certain size and of about 6 lb in weight are to count as twelve to the dozen; the shoal or school-fish, eighteen or twenty-four to the dozen; and the squire, thirty or thirty-six to the dozen—the latter just according to their size, the red bream at per bushel. With some exceptions, these are usually caught in the vicinity of reefs or rocks, by anchoring the boat according to the turn of tide, so that the line will trend on to or along the rocks; when migratory, and in winter, they are caught further off in deep water; but when in large shoals, or wide off and on the top of the water, which is termed schooling, they will rarely take the bait.

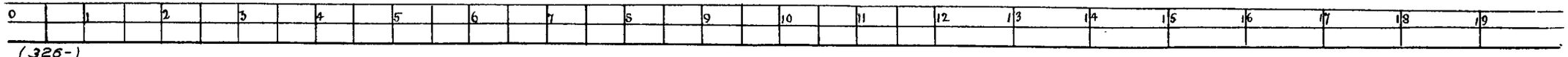
The adult fish is sometimes caught off points within our harbours after nightfall, and at certain times of tide—young flood at some, ebb at others. An adult or native, as he is termed, is, as E. S. Hill describes it, a fine old fish, monarch of his ground, with, as shown in the lithograph, a figure-head as bold and defined in its outline as that on the North Head of this port; cunning and fastidious to a degree—a regular epicure—he must be tempted with choice morsels before the well-chosen bit which conceals the hook will engage his attention. If he be once fairly hooked with strong tackle, the work and anxiety of landing him will for the time it lasts be somewhat intense. The tugging, jerking motion of the schnapper is unmistakeable, and when he gets his shoulder to the line he goes off with a rapidity that makes the cord whistle again, either through the fingers or over the boat's gunwale; a steady and continuous strain, no stray line, together with some skill, enables him to be safely landed, when it will be realised that patience, toil, and anxiety are rewarded with a fish, from twenty to twenty-five pounds weight, fit to embellish a noble banquet.

The bait for these fishes are prawns, stale shark, star-fish, squid, mackerel yellow-tail, mullet, tailors, and a variety of other fishes; the whole of these at particular times will be readily taken, but when the schnapper appears dainty, mackerel and squid may tempt him when all others fail. In its young stage, such as red bream, lean beef is about the usual bait for amateurs, and answers in the absence of fish tolerably well. Thousands of what would be the future schnapper are destroyed in Port Jackson alone, either by the line or net, even from the very smallest of the genus, for in their earliest stage they appear willing to take the bait.

It is believed that the schnapper spawns in December, January, and February, having carried its roe for some months—the spawning is supposed to occur in the vicinity of coastal reefs, the young fry finding its way into the quiet waters of harbours and inlets, where it remains until it reaches maturity, when in its turn it too migrates seawards for the purpose of reproducing its species. It is a matter for regret that no systematic attempts have been made to determine the habits of fishes generally. In 1880 the Royal Commission appointed to inquire into the fisheries had occasion to deplore this want of knowledge, and the pity of it is we are not much better informed now.



G Podmore del



(326-)

BLACK BREAM.

(Pagrus australis chrysophrys.)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE BLACK BREAM.

Family, Sparidæ; *genus*, Chrysophrys.

Colours.—Upper surface of head dark bluish-gray, lighter between the eyes; cheeks and opercles gray and gold, with a tinge of pink; mandibular region silvery white; a dark gray arcuate band from the occiput to the origin of the lateral line; back, olive green; sides, silvery; each scale margined with dull yellow; lower surfaces white, tinged with yellow below the base of the pectorals; dorsal opaque, with a narrow black margin; anal yellow, basally tinged with pink, and with a broad dark gray median band; ventrals yellow; a black axillary spot; caudal, yellowish-brown, with a moderately broad black marginal band; irides brown and gold.

This fish, the "darkie" as it is popularly called, is a great favourite and much sought after by amateur line fishermen. Its capture affords splendid sport and requires considerable skill. The darkie is present in our harbours and inlets in more or less abundance throughout the year. Its usual spawning time is said to be January and February, but many are of opinion that it, as well as some other species, spawn twice in the year, and this opinion is, as regards this particular species at least, fortified by the fact that in Lake Illawarra a general spawning takes place in September and October. Ogilby, a standard authority on Australian Ichthyology, reports having found that "of two specimens examined in the month of August, both having been taken in the same haul of a seine, one contained ova in a very early stage of development, while in the other the ova were fully developed, but exceptionally few in number;" again, on the authority of Mr. Hood Pegus, black bream in the Clarence River spawn in July. There are not, however, sufficient data on which to base actual facts, at least in this regard. The systematic investigation of fish life is a subject which should engage the attention of the authorities to whom the development of our fisheries is entrusted, and until facts are established by actual research we shall to a great extent have to be satisfied by mere conjecture. Fishermen are of opinion that black bream spawns in the lower parts of rivers and lakes near the sea, and that the young fry when hatched betakes itself to the sweeter waters of the upper reaches. Edward Smith Hill gives some good information respecting the characteristics of the black bream as a sport fish; he suggests for its capture a very light tackle, the finer the better; and for bait, fresh or a day-old mackerel, or much better still, prawns which may be procured at low tide by stamping down the weeds to muddy the water; these prawns are called nippers from the improportionate size of one claw. Pastes composed of herring or oysters, mixed with flour or pollard, form a favourite bait.

The black bream likes these large soft bait as a rule, but on occasions he seems to prefer the crustacean named; he picks it up and rushes off at full tilt, and pulling hard and shearing about with a full determination if possible to get away.

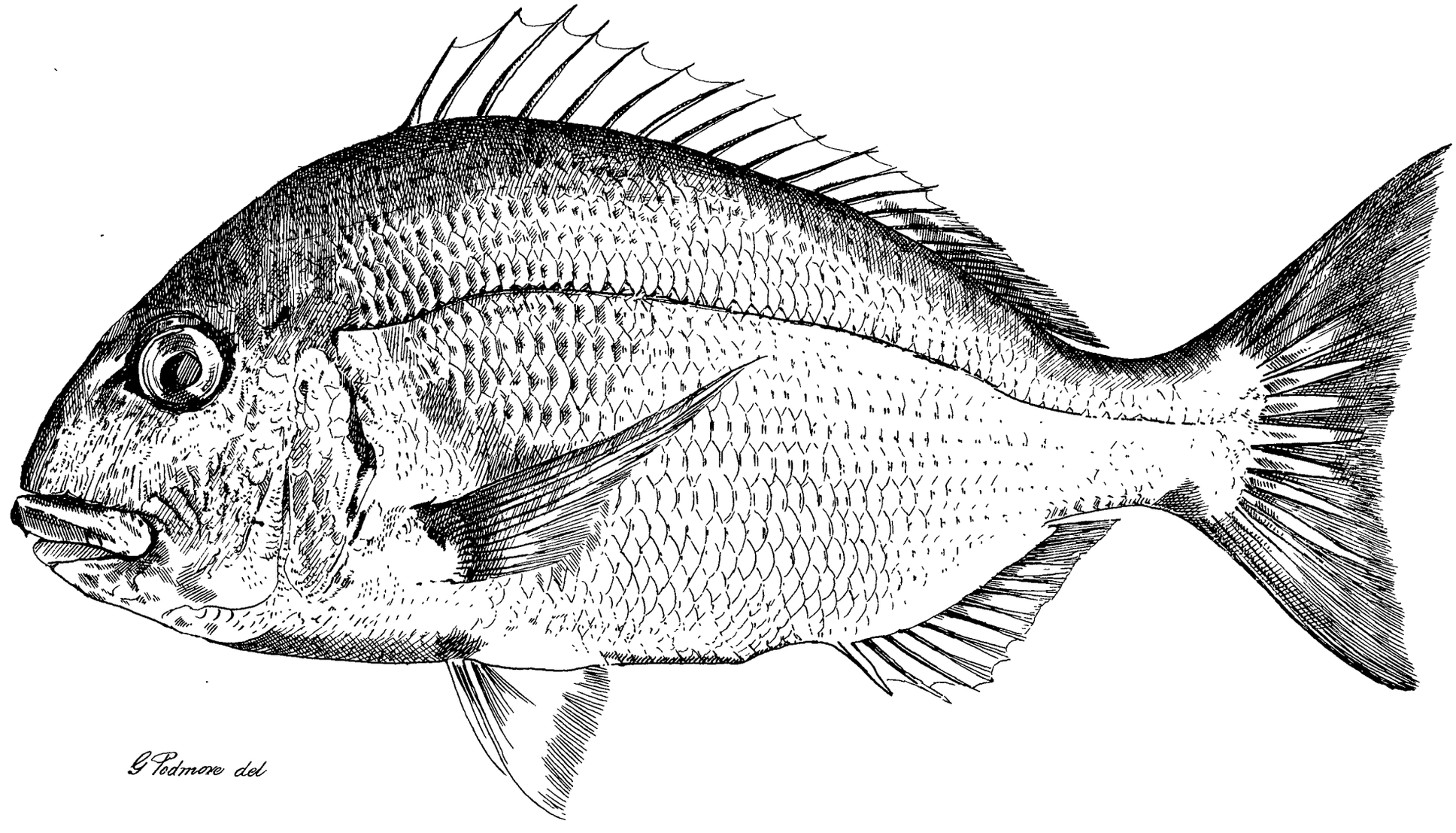
Some difficulty is experienced by the novice in attempting to unhook this fish, and often a lacerated hand is the penalty of his want of skill. The bream is armed with spines, but his are sharper and more robust than any of his order, indeed so effective are they that the aboriginals used the first rays of the pectoral and ventral fins to tip their fish spears.

To unhook a black bream it should be firmly grasped about the middle—certainly about the pectoral fins—sufficient to paralyse him. Otherwise, if the fish is handled gingerly, the first wriggle he gives will release him, and the second motion will, perhaps, cause the hand of the captor to be cut deeply by the operculum or bony gill covering, which is as sharp as a good knife, or stabbed with a spine or two in the struggle.

The black bream, which remain and are plentiful in the harbour at most times, become terribly gross and filthy feeders. Nothing seems to come amiss to them, and they are plentiful about the mouths of sewers, hulks, and ships which remain stationary for any period, under wharfs, and near bathing-houses. They are often sought at these places by the amateur. These fish exhibit a great deal of cunning, and require an artificial bait to tempt them—dough, amalgamated with herring, anchovy, or ling. With this the hook, already snoozed with gut, is concealed and carefully lowered down into the water. The bait, like a plump oyster, rarely sliaf to attract; but very often the darkie seizes the bait and comes off best.

Dark nights and flood tide afford the best black-bream-fishing. At such times it is usual to have a lamp in the bottom of the boat to aid in disentangling the line or examining the bait, &c. This, however, is not indispensable; but in its absence it certainly is advisable to have a set of lines ready for use, so that when one is disabled it may be bunched-up and another used. Black-bream fishing, when freely biting, is first-rate sport, and is much enhanced by having one party in the boat for the express purpose of making ready the bait and attending to the lines.

Notwithstanding the cunning and shyness of these fish during the day they can be often caught at night by baited baskets or traps lowered to the bottom with a junk of beef boiled almost to tatters secured inside to the bottom of the trap. The small fishes are first attracted. They enter and tug away at the bait, which is easily shredded. The bream soon follow and are captured. Meshing nets, placed along the rocks, also secure many at night, but the ordinary hauling net or seine very frequently captures great numbers.



TARWHINE.

(*Pagrus sarba.*)

THE TARWHINE.

Family, **Sparidæ**; *genus*, **Chrysophrys.**

Colours.—Upper surface of head lead color; preorbital and preopercle silvery; cheeks and opercles with a golden tinge; body silvery, each scale with a broad, median, dull gold bar, forming together longitudinal bands, which become gradually fainter on the lower part of the sides; generally a bright golden band above the base of the ventral; dorsal fin dusky, with a basal hyaline spot between the rays; caudal dull yellow, with a broad dusky terminal band; ventrals golden; anal with the basal half silvery, the marginal half golden.

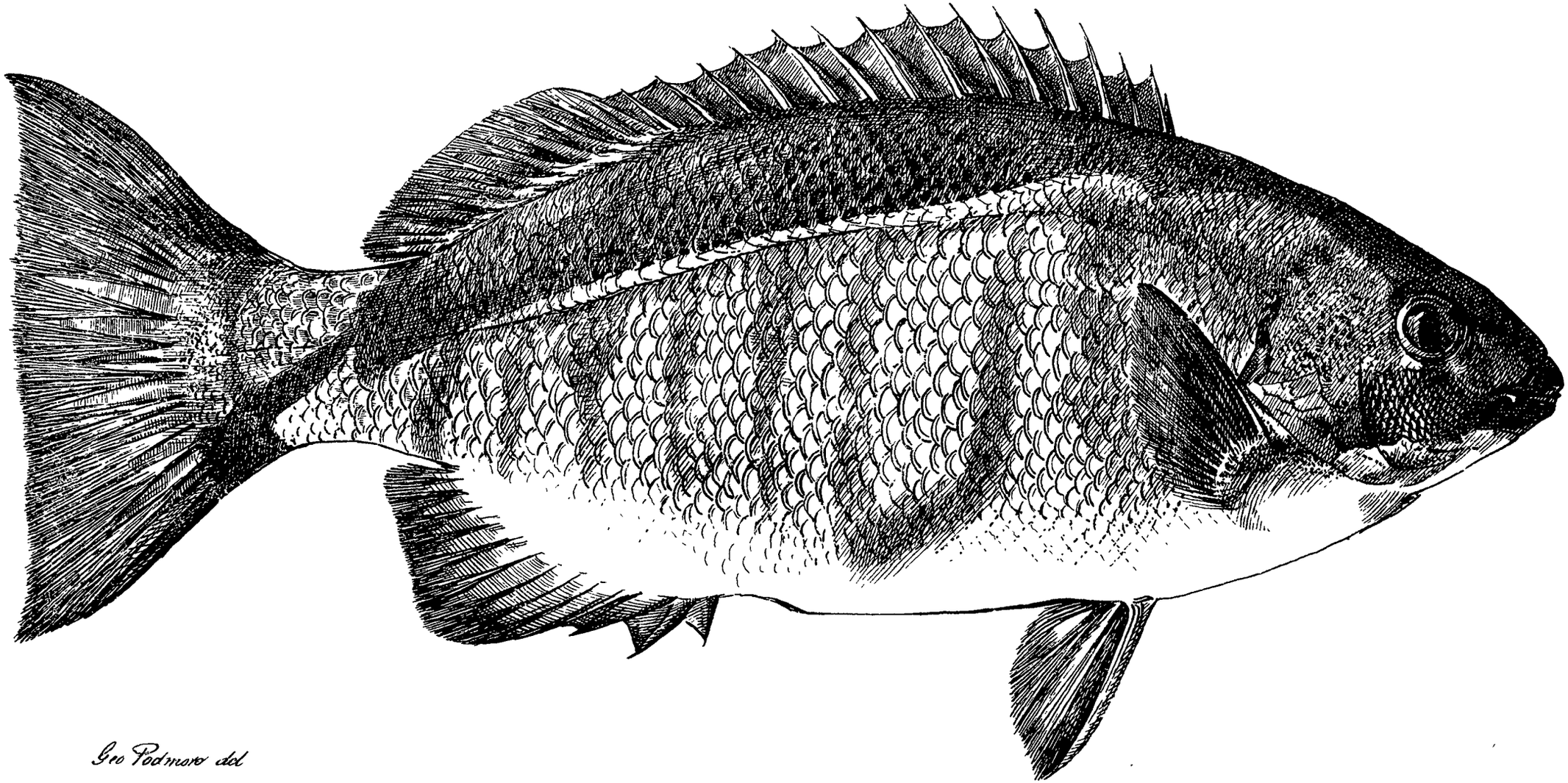
The tarwhine (Chrysophrys sarba) is, as its genus implies, a near relation of the black bream. It may be regarded as a semi-tropical fish, being much more plentiful in our northern than our southern waters; from the former it is sent in numbers to market and commands a ready sale. In shape and size it is similar to the black bream, but its colour is brighter and more silvery—its scales smaller and its head more circular in form, being somewhat similar to that of a young schnapper. There is very little difference in the habits of the two species, except that the tarwhine is more frequently found on sandy bottoms not far from the sea, and is seldom seen in the upper rivers; as may be supposed it is more scarce in winter than in summer. It is supposed to spawn generally in the hot months, but specimens have been found as early as July with the roe more than half developed; this would lead to the inference that the tarwhine is amongst those classes of fishes which are believed to spawn bi-annually. It is inferior to the black bream, but when perfectly fresh and in good condition is a fairly well flavoured fish.

THE BLACKFISH.

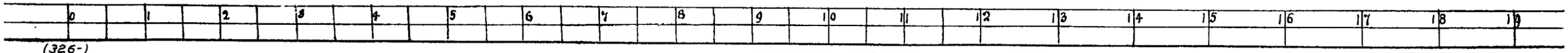
Family, **Sparidæ**; *genus*, **Girella.**

Colours.—Blackish or dark brown above, lighter below; or silvery gray with a variable number of dark brown transverse bands.

The blackfish is largely distributed along our coast-line and is common both to the sea and the inlets; it is a fairly good food fish, but not by any means equal to the black or red breams. It is a purely herbivorous feeder, and after capture rapidly declines in quality, but its declension in this regard can to a great extent be averted by the immediate removal of the entrails. Its habitat is chiefly amongst weedy bottoms. The principal mode of capture is by net, though it often contrives to escape capture by laying on its side and allowing the ground net to pass over it, but it may sometimes be taken by line with a bait composed of a green mossy grass which forms its principal food; common cabbage also is an effective bait. It spawns amongst weeds in deep muddy-bottomed holes and on outer beaches, this latter being evidenced by the fact that its young are frequently to be found in the pools on the rocks during the autumn and winter months, the actual spawning taking place during February and March. The fish attains a weight of 3 to 4 lb., its average length being about 12 inches, though much larger sizes are sometimes captured. The fish appears in shoals throughout the year.



Geo Podmore del

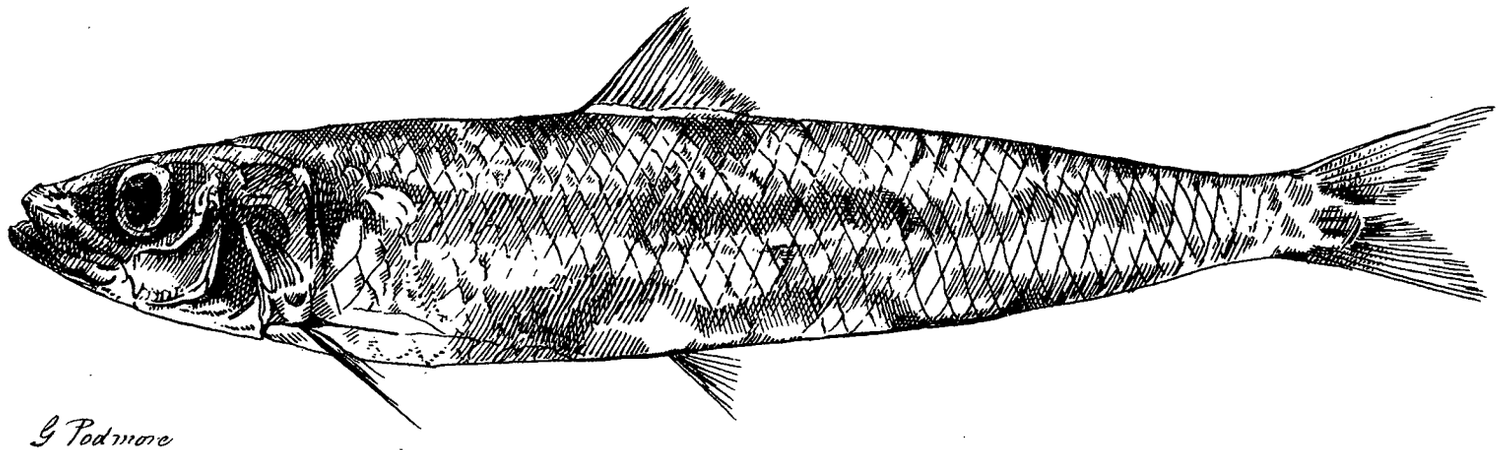


(326-)

BLACK FISH.

(*Girella tricuspidata.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,



G Podmore

0 1 2 3 4 5 6 7 8 9 10

PILCHARD.

(*Clupea sagax.*)

THE PILCHARD.

Family, **Clupeidæ**; *genus*, **Clupea (sagax)—maray.**

Colours.—Dark blue above, changing rather abruptly into the silvery of the sides; a series of round blackish spots along the middle of the sides.

Though this fish is not yet generally regarded as amongst our principal food-fishes, yet from its undoubted abundance on our coast during the winter season, and from the first rank it occupies in the fisheries in other parts of the world, it seems destined in the near future, when means shall have been taken to place our fisheries in a position to ensure their due development, to play an important part in New South Wales. We, therefore, think it fitting to give this fish a passing notice here.

We have reason to think that the maray, as we are accustomed to call it, is known only to a few of our colonists, and though elsewhere the capture of the pilchard would engage the attention of thousands of persons and provide them with remunerative employment, it has year by year been allowed to pass our coast unheeded, and thus an important item of national wealth, both in the shape of food for local consumption and in its boundless possibilities as an article for export, has been permitted to escape without any attempt being made to utilise it.

The late Sir William Macleay, a scientist, and an enthusiast in all matters relating to fish and fisheries, at one time endeavoured to incite an interest in this fish, but without effect. It may be assumed that while fish generally were so easily captured by simple seining in inlets and other still waters, there was no incentive to fishermen to encounter the dangers and inconveniences of the open sea in pursuit of this fish, while, moreover, they were totally unprovided with proper appliances for its capture.

Sir William describes the shoals which visit us as enormous, covering miles of sea, and accompanied by flights of birds and numbers of large fish.

On the Victorian coast, McCoy notices the occurrence of this fish at various dates between August and January, and in the International Exhibition Essays, 1866–67, gives an account of an extraordinary visitation which took place in Hobson's Bay during August of the former year; he writes:—"They arrived in such countless thousands that carts were filled with them by simply dipping them out of the sea with large baskets. Hundreds of tons of them were sent up the country to the inland markets, and through the city for several weeks they were sold for a few pence the bucketful, while the captains of the ships entering the bay reported having passed through closely packed shoals of them for miles."

Speaking of its abundance in New Zealand waters, Hector remarks:—"This is a true representative of the herring kind in these seas, and it visits the east coast of Otago every year in February and March, and when the schools migrate they extend as far as the eye can reach, followed by a multitude of gulls, mutton-birds, barracouta, and porpoises. So densely packed are they in some years that by dipping a pitcher in the sea it would contain half fish; so that if large boats and suitable nets were employed thousands of tons could be caught."

In view of this fact it seems to us almost criminal that opportunity has so far not been availed of to build up an industry which would be so far-reaching and so expansive in its results.

THE DRUMMER.

Family, **Sparidæ**; *genus*, **Pimelepterus Sydneyanus.**

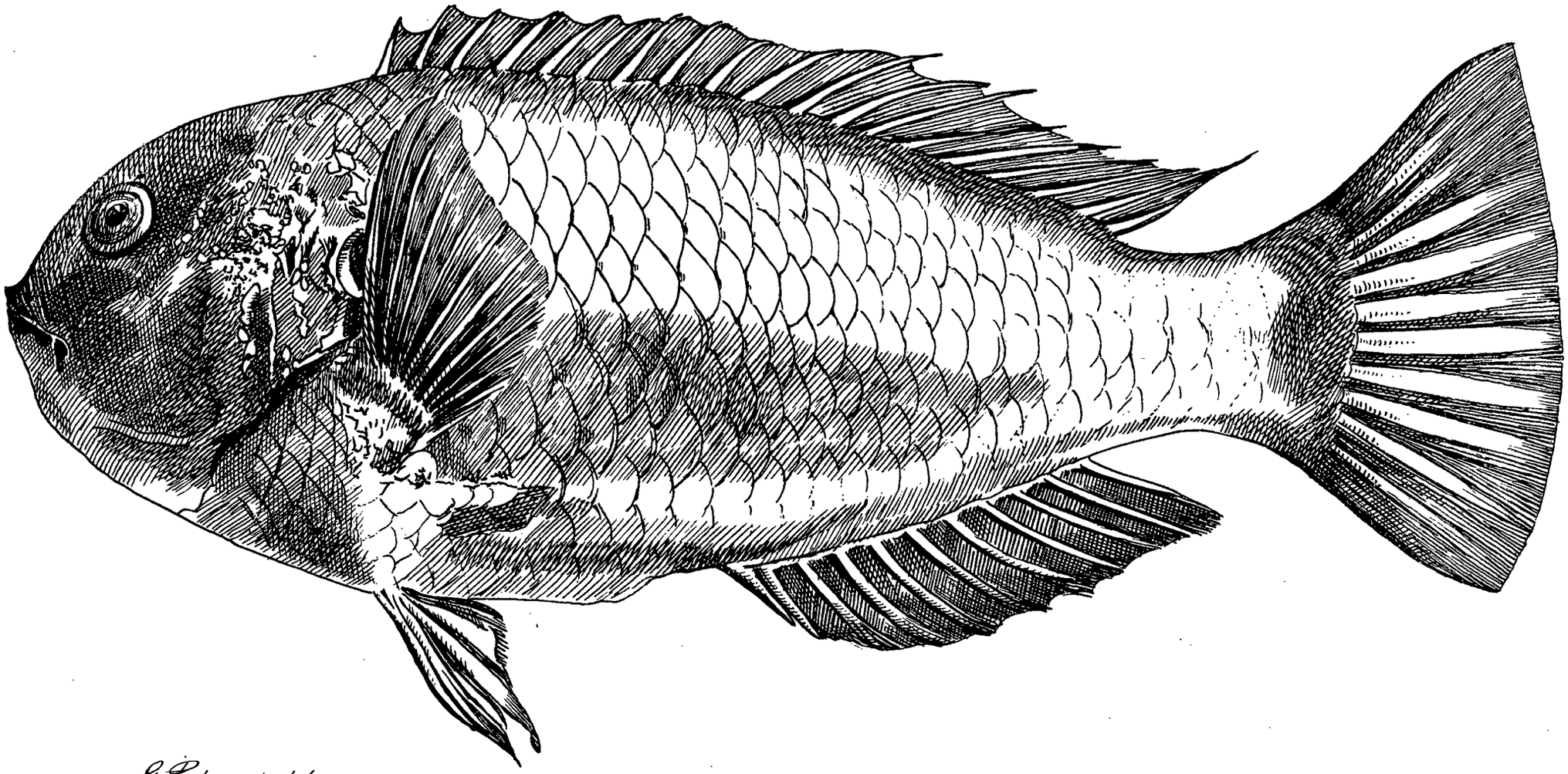
Colours.—Dark gray, washed with silver on the lower part of the sides; upper surface of head darkest; all the fins dark coloured; irides golden and silvery about equally mixed.

The "drummer" of the Sydney fishermen is not uncommon in Port Jackson and Broken Bay, and though occasionally a dozen or more may be seen at one time in the market, this is certainly the exception, not because of the rarity of the fish, but owing to its habit of frequenting closely the neighbourhood of rocky shores and inlets where the nets in vogue here cannot be used. It is a true rockfish, dwelling in the crevices and indentations of our rocky shores, where it finds abundant food and shelter; it is not given to roaming, and is only taken by the trammel, one end of which is attached to the shore, against which the mesh must actually lie or else the fish would assuredly pass inside, whence it happens that this fish is almost always caught within a few feet of the shore. So far as can be ascertained, it is never known to take a bait.

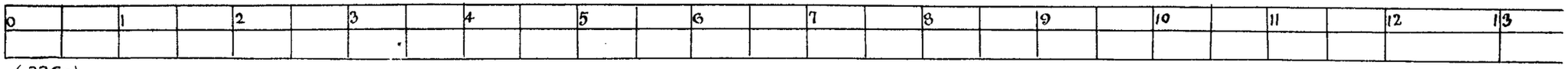
The breeding season is about midsummer, and the ova is probably deposited in sheltered spots among weed covered rocks.

As food the drummer does not readily command a sale in the market, nevertheless halfgrown examples are quite equal in flavour to the other herbivorous sparids.

The drummer grows to the length of thirty inches.



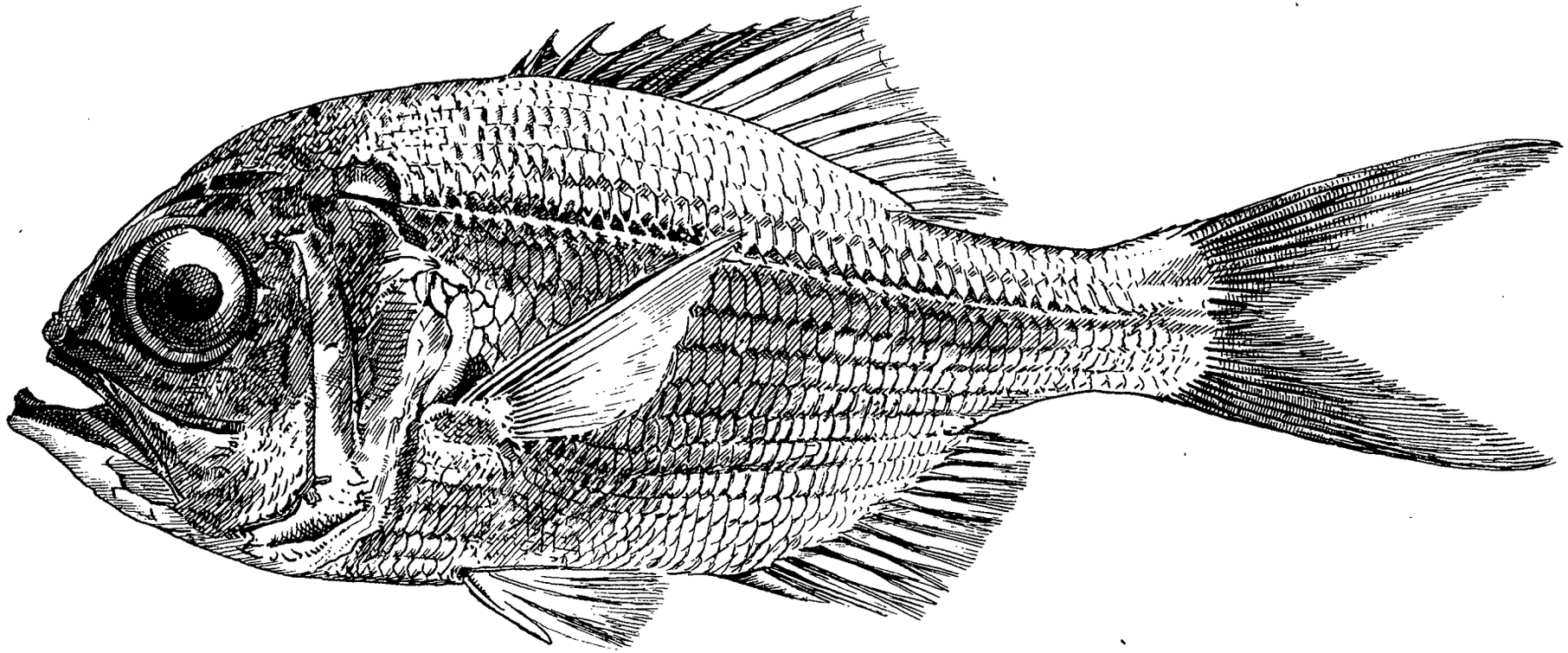
G Podmore del



(326-)

DRUMMER.

(*Pimelepturus sydneyanus.*)



G. Podmore del

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

(326-)

NANNEGAI.

(*Beryx affinis.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE NANNYGAI.

Family, **Berycidæ**; *genus*, **Beryx.**

Colours.—Red, with violet reflections, each longitudinal series of scales with a large median spot, which is golden on the back and grows gradually paler on the sides, becoming silvery below, and forming well defined bands; abdominal region dirty white; fins red.

The name given to this fish is derived from the aboriginal "Mura ngin a gai." By the early colonists it was called "Mother nan a di," evidently a corruption of the original, and from the corruption is derived the now accepted name of the fish.

The species, which visit some of the headlands on our coast, is shaped like a squire or small schnapper, but does not attain a great size; seldom more than 15 inches. Its bright red colouring matter appears to be in the skin and epidermis, as it retains a portion even after having been cooked. Nothing is known of the habits, or time of spawning of this fish, or of its reasons for periodical migration to our coast.

The nannygai has a very large eye, is found in the vicinity of reefs, and is fished for in deep water with hook and line, and the ordinary schnapper bait. Great caution is necessary at times in approaching the ground so that the boat may not be pulled over the rocks where these fish congregate, as they have been known to take alarm in such instances, and in consequence not to take a bait during the day; otherwise they bite freely, and many are taken. The North Heads of Port Jackson and Botany Bay afford a rendezvous for this fish, as also Middle Head and points at intervals along the coast.

The beauty of this fish is to be seen best when first caught, and the flesh is much better when fried very fresh. In fact, most of the Australian fishes are tenfold better as food when just caught, although some keep tolerably well; but the nannygai will not keep many hours after removal from its element.

THE WHITE TREVALLY.

Family, **Carangidæ**; *genus*, **Caranx.**

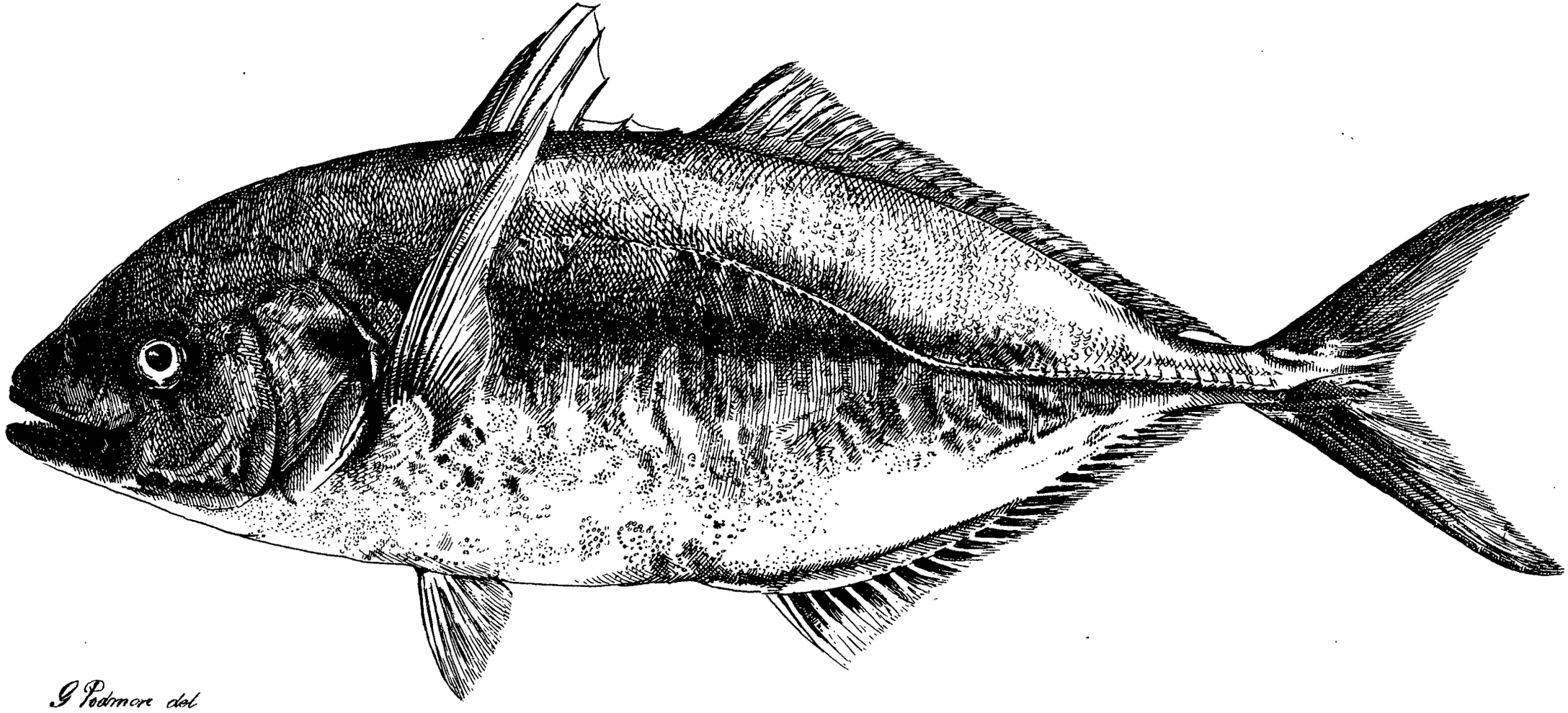
Colours.—Steel blue above, silvery on the sides and below; a black spot on the opercle, behind which, along the median line of the body, a broad golden band is present or absent; tip of spinous-dorsal blackish.

This fish is abundant along the entire coast of this Colony. It possesses a fine and delicate flavour and is said to attain a weight of 10 to 12 lb. It does not confine itself to the sea, but enters freely into harbours and rivers where it is readily captured in the net. When about 12 inches long it is most fitted for the table, having at that stage of growth attained its greatest delicacy of flavour. It smokes splendidly, but is said to be not suitable for canning. This trevally sheds its spawn in October and November. It frequents shallow water, feeds amongst rocks and takes fish-bait ravenously.

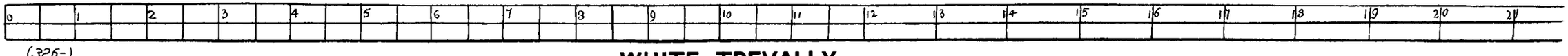
THE BLACK TREVALLY.

Family, **Teuthididæ**; *genus*, **Teuthis.**

Is shaped something like the white one, but is brown in colour and irregularly marked. It is also slimy and more rigid, having all its prickles pointed and very small scales. The dorsal ray, as well as every fin, is not only kept stiff, but each point of any one of them can inflict a very painful wound. The black trevally is said to be a very good eating fish, but it must be used as soon as possible after capture in order to bring out its best qualities.



G Podmore del

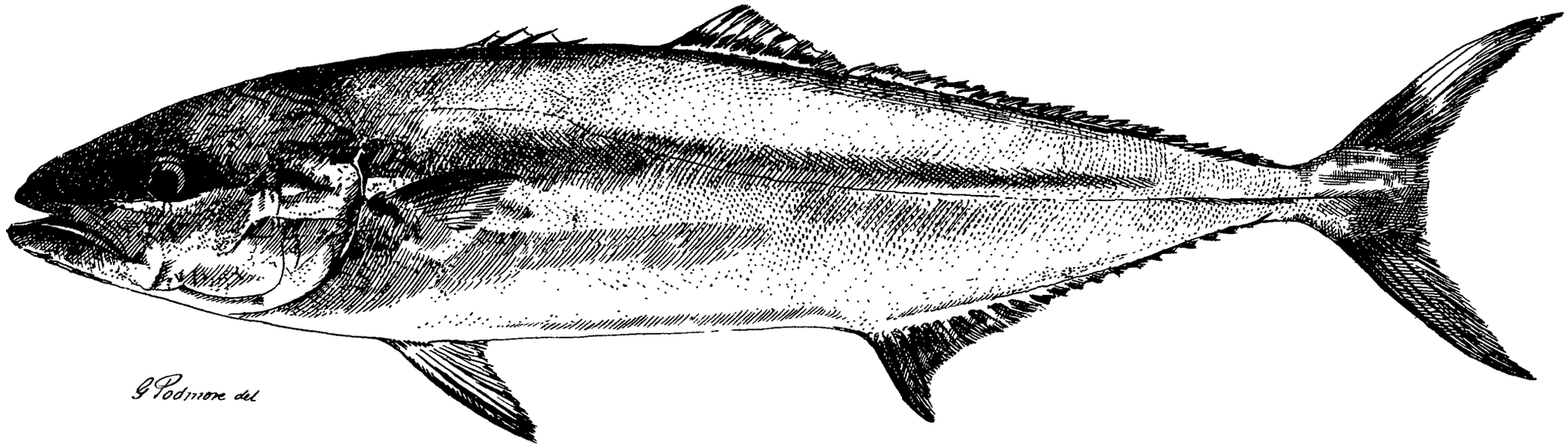


(326-)

WHITE TREVALLY.

(*Caranx georgianus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



(326-)

KING FISH.

(Seriola lalandii.)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE KINGFISH.

Family, Carangidæ; *genus*, Seriola.

Colours.—Brilliant purplish blue above, the head darker and with a distinctly greenish tinge; sides silvery; abdominal region pearly white; a broad golden band commencing behind the eye, and traversing the median line of the body may or may not be present; soft dorsal and anal olive green, the elongate anterior rays tipped with yellow, the latter fin with a narrow white margin, and with a pearly spot between the bases of each pair of rays; caudal olive green with the lobes yellow; ventrals white outside, yellowish-green inside; pectorals and spinous dorsal gray; irides silvery, clouded in parts with golden brown.

The kingfish visits our shores in large shoals at irregular intervals throughout the year, the large fishes not, however, consorting with those of smaller size. The most marked visit consists of a run of large breeding fish, commencing during August, and lasting till about the middle of November; from this time, and during the summer and autumn months, large shoals of immature and half-grown fishes make their appearance, these in their turn retiring, with the approach of cold weather, to more open, deeper, and consequently warmer waters. Even, however, in the depth of winter, some few examples, chiefly of large size, may be met with in the market. The principal spawning takes place in October. That the ova is shed as a rule out to sea, possibly at some considerable distance from the land, is probable, while it may be taken for granted that it floats; the fry are, however, never found in our harbours, nor even on our outer shores; where, therefore, they remain, during the interval between their hatchment and their appearance in shoals along the coast during the latter end of summer, when they measure from 12 to 18 inches, is merely matter for conjecture. In the Twofold Bay District they are reported to spawn in deep water outside about the month of September, after which "they make for a large sandbank which exists about 12 miles out from the Heads, where they are found in great numbers." At all ages their voracity is very great, and they do much damage to such fishes as the mullet, both by harassing the parents when on the breeding grounds, and subsequently by the enormous consumption of fry. Their food consists almost exclusively of small fishes, hardyheads, yellowtails, whitings, and mullet having been taken from the intestines of a single large individual. As a table fish it varies much with the season, and its size, examples measuring 2 feet and under being firm and palatable, except in the spring months when they are soft and unpalatable having quite a cheesey taste, while the larger fishes become according to growth increasingly coarse, tough, and flavourless. When the kingfishes are in good condition and perfectly fresh, the belly part, properly cured and smoked, is said to be far superior to any imported fish cured in that way. The kingfish also ranks high in estimation as a game fish for sporting purposes.

THE TAILOR.

Family, **Carangidæ**; *genus*, **Temnodon.**

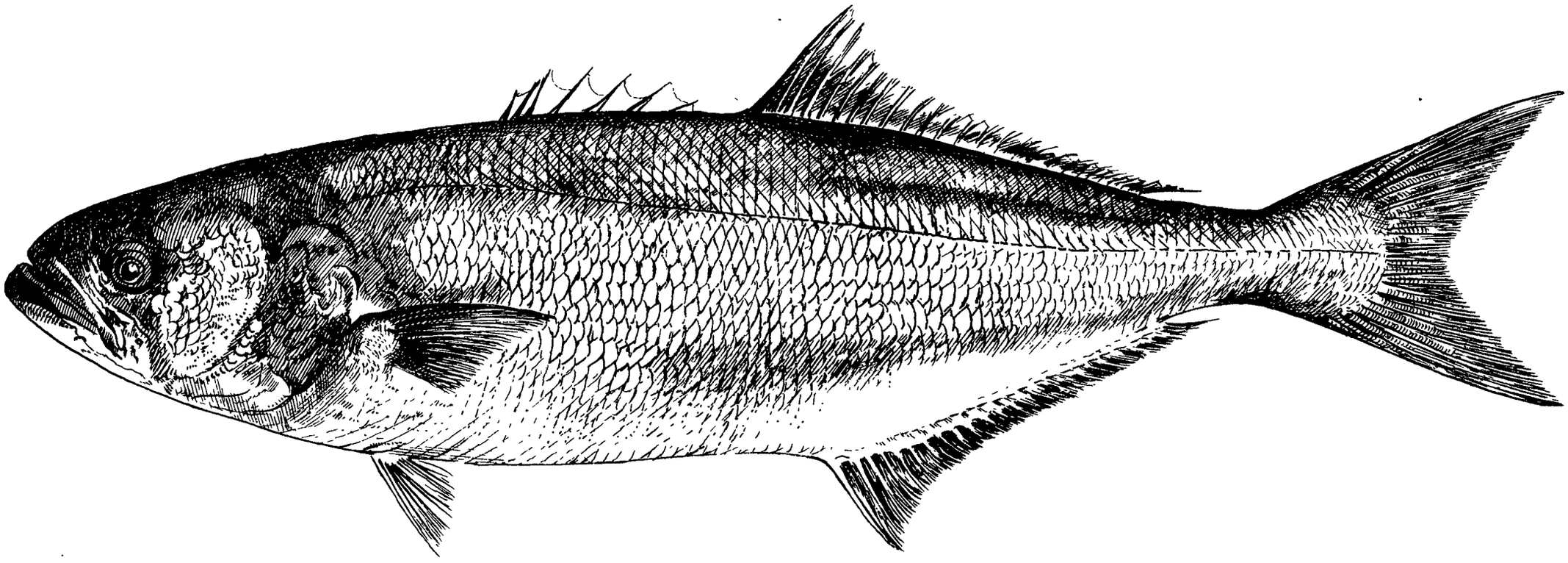
Colours.—Pale green above, silvery below : soft dorsal, anal, and posterior half of caudal tinged with yellow.

This fish, known as the Skipjack in Melbourne and as the Bluefish in the United States of America, is one of the most rapacious of fishes, destroying an immense number of other shore fishes and killing many more than it can devour. It is very strong and swift in its movements, and is remarkable for its piercing teeth. It is a fairly edible fish, but must be used as soon as possible after capture, as its quality very quickly deteriorates. In a smoked state, however, it is essentially a delicacy of rare excellence.

During the spring months the tailor arrives off our coasts in countless numbers for the purpose of shedding its spawn; this function takes place in the open sea, but well within the influence of the tides, and the impregnated ova float on the surface in large masses, where they become the prey of numerous predaceous fishes and birds; owing to the combined warmth of the sun and water, and influenced doubtless by the action of the tides, the ova mature quickly, and the young fish on their emergence soon find their way into sheltered harbours and inlets, though, should stormy weather intervene during their passage, thousands of fry under two inches in length are frequently washed ashore on the outer beaches, those, however, which survive the perils of the journey, and reach the comparatively safe shelter of our harbours and salt water lakes rapidly increase in size, and are taken by the seine at all seasons of the year, measuring from 4 to 10 inches in length, and are sent to market along with yellowtail, to be sold as bait, for which purpose they are excellent.

Consequent on its rapacity, it takes a bait of almost any kind freely, and affords good sport to the angler. The great majority of the fish brought to market is, however, taken by the seine net, but, though commanding a remunerative price, the enclosure of a shoal of large tailors is frequently no great cause for congratulation on the part of the captors, as their strong subulate teeth, aided by their strength and determination, enable them in an incredibly short time to cut through the meshes, and not only escape themselves, but by rendering the net useless cause the loss of that night's fishing, not to speak of the trouble and expense incurred in mending the nets. Instances have been known where the entire bunt of a net has been torn to shreds by a few dozen tailors.

Tailors may also be captured with a bait of red rag by trolling a line of some length from a steam boat going at the rate of four or five knots per hour.



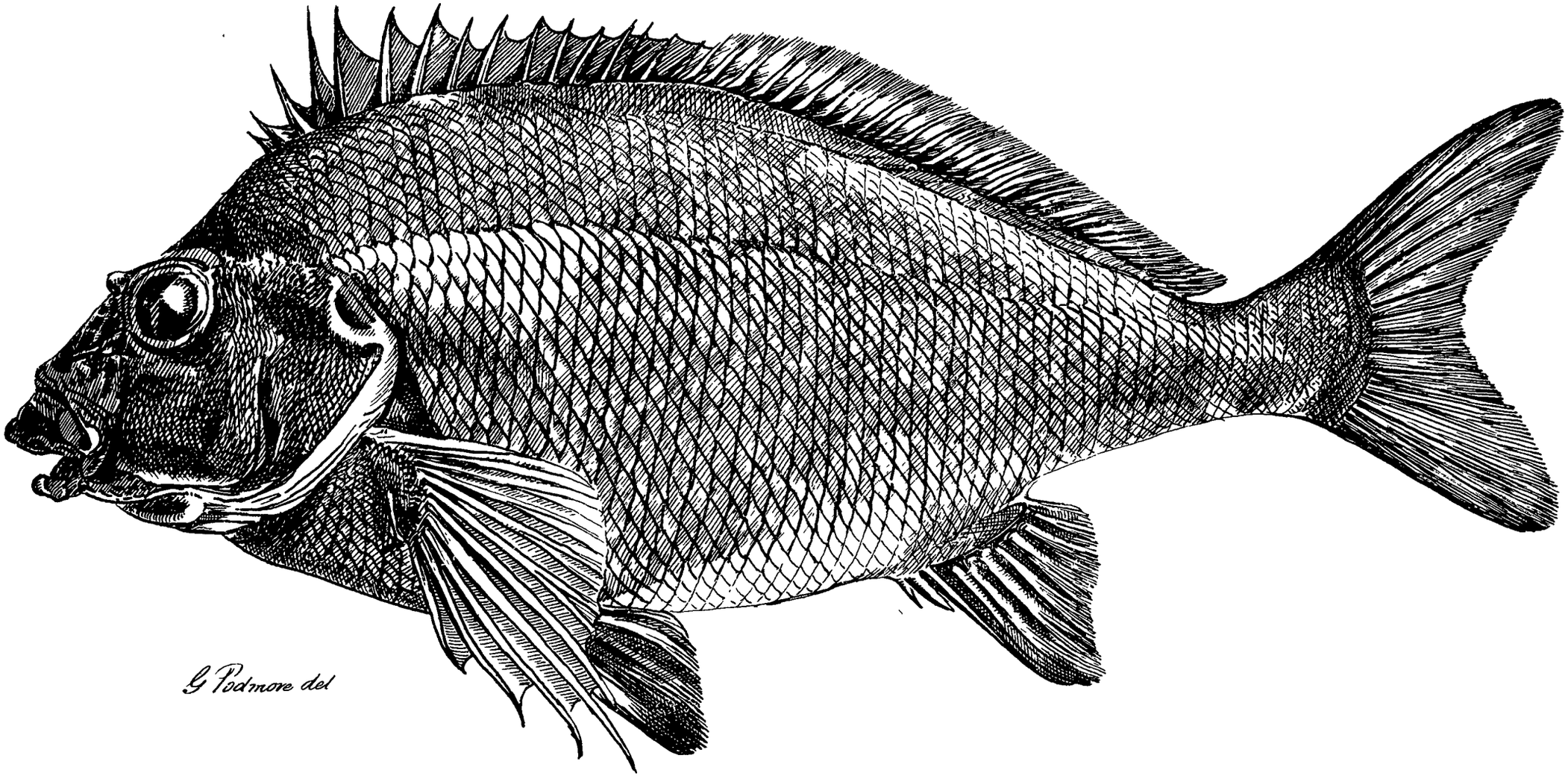
G Podmore del

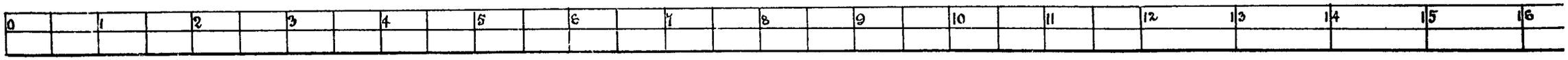
(326-)

TAILOR.

(*Temnodon saltator.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.





(326-)

AUSTRALIAN CARP.

(*Chilodactylus fuscus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE AUSTRALIAN OR SEA CARP.

Family, **Cirrhitidæ**; *genus*, **Chilodactylus** (*Aboriginal*, **Bingátti**).

Colours.—General colour of the body bluish-silvery, each scale with a reddish-brown margin which is much broader above than below; two or three oblique silvery bands on the posterior portion of the tail, which are very conspicuous in immature examples but almost obsolete in adults; head reddish-brown; an orange band, broadest in front, round the eye, except on the supraorbital region; chin and branchiostegals silvery, with a chestnut patch between them; anterior margin of pectoral region orange; dorsal reddish-brown, the rays narrowly edged with orange; anal and ventrals black, with or without a bluish submarginal band; pectorals pale brown, with a small axillary spot and the elongate portions of the simple rays red; caudal reddish-brown basally, deepening almost to black behind, and with a broad orange posterior margin.

The Australian carp differs much from others of its genus, though it has by certain writers been confounded with at least two of its congeners—the jackass fish and the red morwong. Notwithstanding that the carp is found in moderate numbers along our coast at all seasons of the year, and freely enters our harbours and estuaries, where it doubtless breeds, since the young are taken there by seine, and hook, nothing definite can be learned as to its manner of breeding. It is more of a rockfish than the two species named, but is frequently taken in the harbour in nets; the adults are fairly common on the outside reefs and rocky shores throughout the year, though apparently in greater numbers during the warmer months. In such places they are chiefly caught by hook and line; they are among the most common as well as the most handsome fishes to be found in our aquaria. As food this is one of the best fishes of the Colony, and is obtainable at a moderate price, but, as is unfortunately the case with so many of our fishes, there is no special fishery for them, and, except in the case of the immature examples which frequent the shoal waters of our inlets, they, therefore, escape capture. Their food seems to consist of small worms, finely triturated masses of foraminifera, and small shells. This is another one of those species whose range is either very limited, or the centre of whose distribution has not yet been discovered, the coastline lying between Lake Macquarie and Shoalhaven being so far the only locality from which it has been recorded.

THE MULLET.

Family, **Mugilidæ**; *genera*, **Mugil and Myxus.**

COLOURS.

The Sea Mullet.

Steel blue, with a tinge of green or olive above; sides and lower surfaces silvery; a small black axillary spot, and a golden spot on the upper angle of the opercle; dorsal and pectoral fins dark bluish-gray, caudal and anal yellowish-green.

The Flat-tailed Mullet.

Steel blue above, silvery on the sides, white below; scales of the back with a narrow median longitudinal streak forming bands, and often with golden reflections; a small black axillary spot preceded by a golden blotch; soft dorsal, anal, and caudal fins tinged with gold on the outer margin.

The Sand or Tallegalann Mullet.

Light reddish-brown or dark green above; sides pink; lower surfaces silvery; a small black axillary spot.

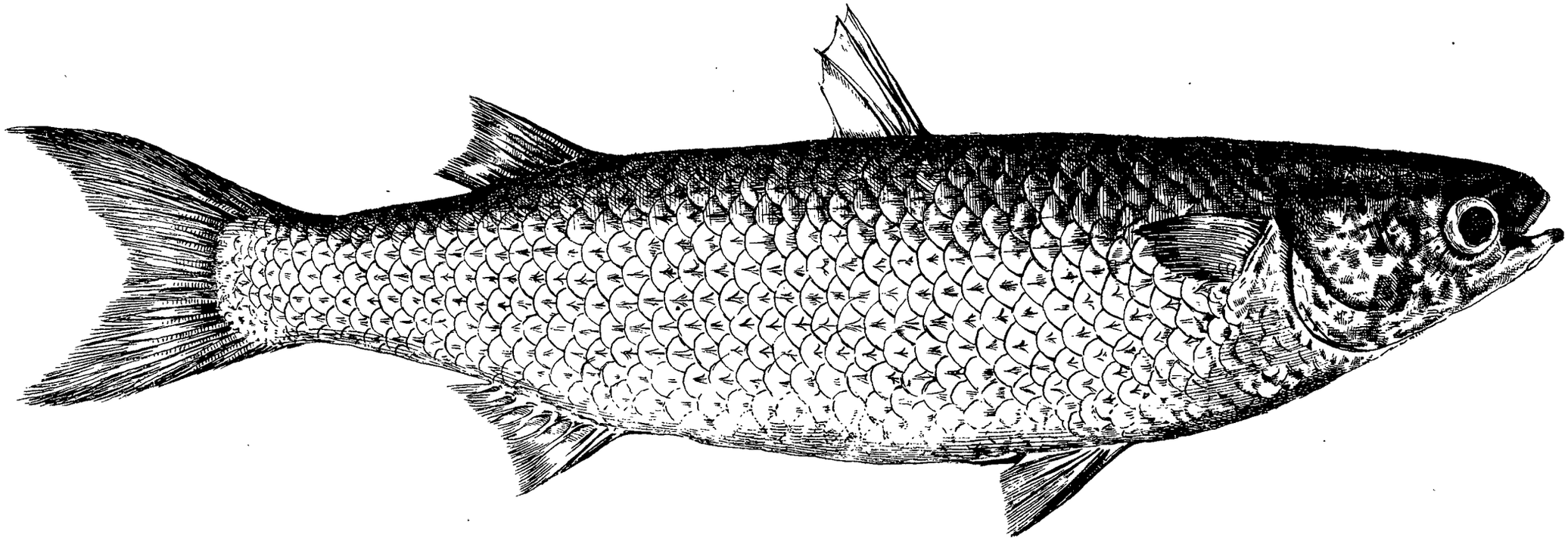
This family is very widely distributed and is immensely plentiful along the whole coast of New South Wales. The difference in the *genera* named is that one, the *mugil*, does not possess teeth, the other, the *myxus*, possesses feeble teeth. The principal species are the sea mullet, *mugil grandis;* the flat-tail mullet, *mugil peroni;* and the sand or talleygalann mullet, *myxus elongatus.* Talleygalann is the aboriginal name for this mullet.

The sea mullet is the one of all our fishes that offers the greatest inducement for a special fishery for purposes of export. It makes its appearance on our coast in prodigious shoals in the months of April and May, travelling in a northerly direction and showing a disposition to enter every inlet and harbour along its course. It is at that time full of roe and in prime condition, prosecuting its migrations in search of suitable spawning grounds. The quantity locally consumed in a fresh state during this season, which lasts only six or eight weeks, is but infinitesimal in proportion to that which could be captured if means were available for securing the great shoals of the fish while at sea. But this in passing only. The late Sir William Macleay expressed the opinion that the ova shed in the autumn remains in the mud during the winter and does not germinate until the spring. It was in this way that he accounted for the presence, on one occasion, about the middle of October, in Elizabeth Bay, Port Jackson, of large shoals of the fry of this fish, but Ogilby contends that it spawns biennially, that is to say in the spring as well as the autumn, and that the fry which Macleay saw were the result of the spring spawning.

The ovaries in both the adult and immature fish are very large, while each individual ovum is exceedingly small; the quantity shed by an adult female has been estimated to number between two and three millions.

The young mullet on their emergence from the ova remain quiescent until the absorption of the yolk-sac, after which they wander in small schools along the shore in shallow water, mostly working up stream, frequently into purely fresh water; in such places they pass the first two years of their existence, during which they increase rapidly in size; they then drop quietly down the rivers and for the first time seek the open sea about the early autumn months, returning, however, much improved in flavor and condition during the months of January and February, at which time they are sent in large numbers to the Sydney market, where they are sold as "hard-gut mullet." It is scarcely necessary to say that this title is ridiculous, there being no difference in the hardness of the œsophagus of the immature and the adult fish; if, therefore, a distinctive appellation is necessary for the former, river, or, better still, estuary, mullet would be far more appropriate.

The mugils, owing to the absence of teeth, are in the ordinary sense of the term incapable of eating either vegetable or animal substances. In this connection it may be instructive to quote from the late Professor Gunther the mode in which these fish obtain their food. He says:—"They frequent brackish waters in which they find an abundance of food, which consists chiefly of the organic substances mixed with mud or sand; in order to prevent larger bodies from passing into the stomach, or substances passing through the gill openings, these fishes have the organs of the pharynx modified into a filtering apparatus. They take in a quantity of sand or mud, and after having worked it for some time between the pharyngeal bones they eject the roughest and most indigestible portion of it." The whole apparatus which Gunther describes very minutely constitutes a kind of sieve admirably adapted to permit a transit for the water through the gills, retaining at the same time every other substance in the cavity of the pharynx.

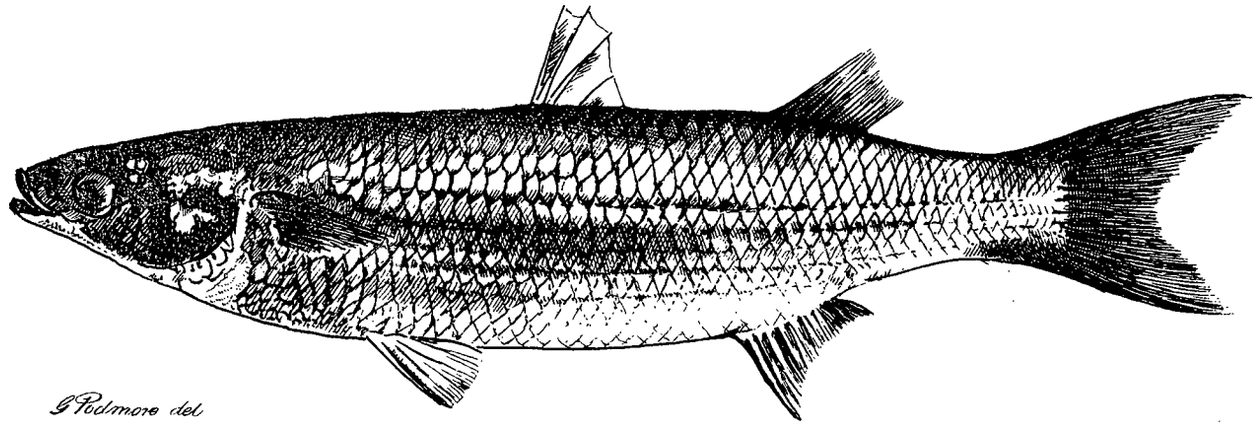


(326-)

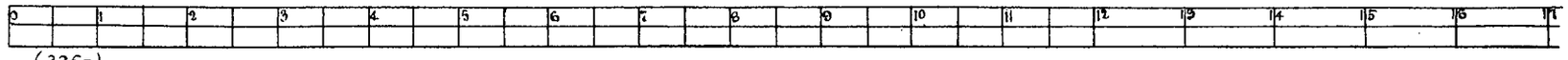
SEA MULLET.

(*Mugil grandis.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



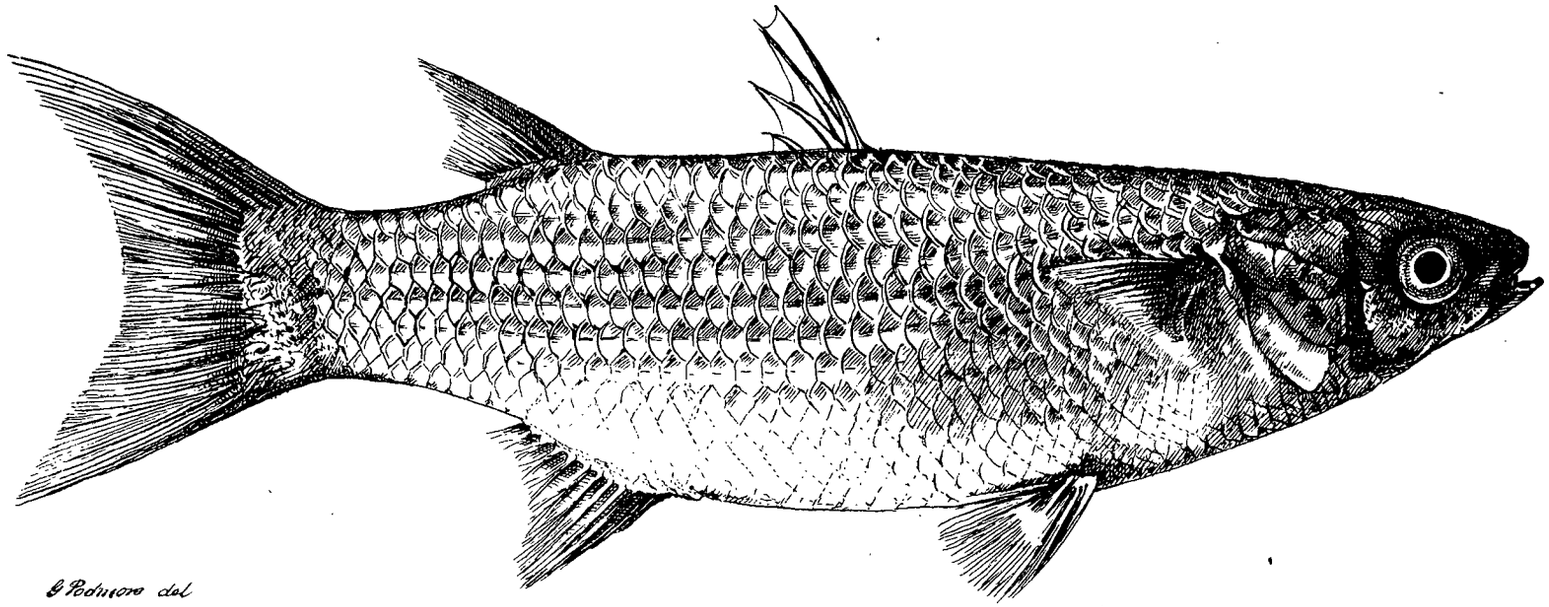
G Podmore del



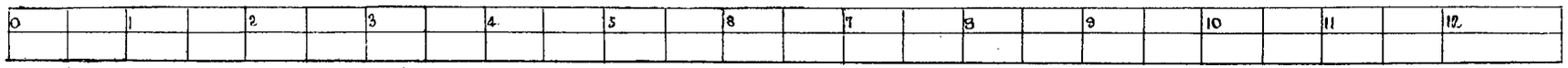
(326-)

TALLEGALANN OR SAND MULLET.

(*Myxus elongatus.*)



G Podmore del



(326-)

FLAT-TAILED MULLET.

(*Mugil peroni.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

The flat-tailed mullet, though it does not attain to the commercial importance of the sea mullet, nor possess the exceptional richness of flesh peculiar to that species, is of considerable value as a food, and is abundant and in good condition throughout almost the whole year. The spawning season appears to be spread over a number of months, specimens examined during December having been ripe for spawning, while others of the same catch had the ova in all different developments between that and the barely possible discernment of its formation in the ovaries; the main body, however, appear to shed their spawn about the latter end of spring or during the early winter months, but at any time between December and June, inclusive, spawning fishes may be observed. This prolongation of the breeding season doubtless accounts for the fact that they are rarely noticed to arrive in the enormous shoals, for which we are accustomed to look in the case of *Mugil dobula*.

The average marketable size of this fish is 12 inches, but it sometimes reaches 16 inches.

In habits, feeding, &c., it differs in no wise from the other species of *Mugil*. Not being so oily as the sea mullet it is more delicate in flavor, and more adapted for these reasons to the use of invalids.

This fish is found along our coast from south to north, but in the former direction quickly decreases in numbers.

The sand or tallegalann mullet does not materially differ from its congeners in habits, but is readily distinguishable by its expanded tail and the absence of an adipose membrane over the eye and its more pronounced dentition. It is a long-bodied fish, and is found chiefly on flats at flood tide, or near shoal waters abutting on a deep stream or channel. It is more delicate and palatable in the young than in the adult stage. It is found at the mouths of small fresh-water streams on clean white sand, and when half-grown will take a bait, dough kneaded with bread crumbs, and afford fair sport to anglers.

THE WHITING.

Family, **Trachinidæ**; *genus*, **Sillago.**

COLOURS.

Trumpeter Whiting.

Sandy brown above, silvery below; the sides with a conspicuous, median, longitudinal silvery band, and with seven or eight irregular dusky blotches directed obliquely forwards, which are sometimes very faint or even absent; cheeks golden, a dark green blotch on the opercles; spinous dorsal blotched, rayed dorsal spotted, with olive green; anal and ventrals golden; pectorals and caudal cloudy gray, the former with a deep black spot in front of the base.

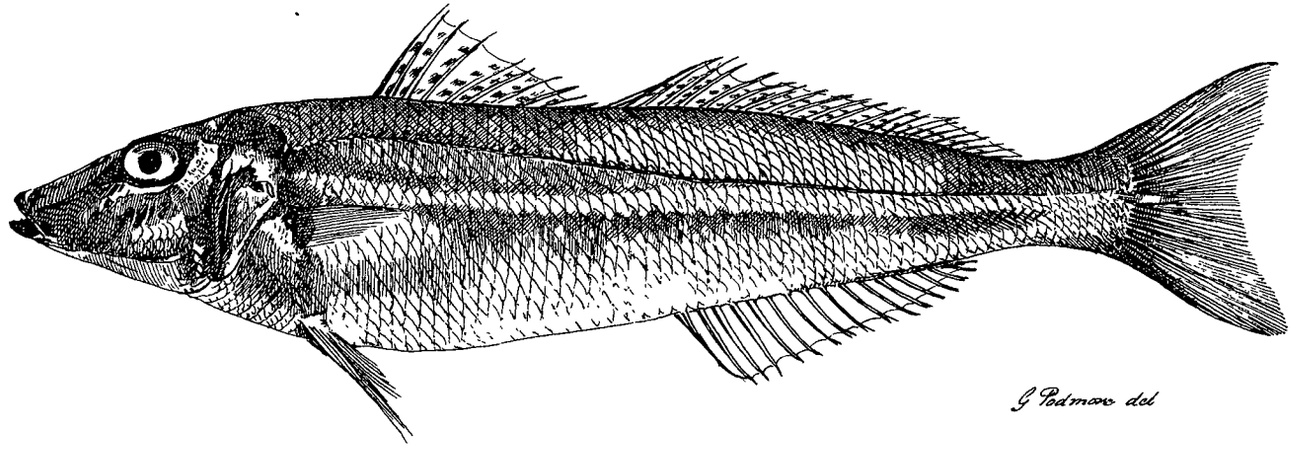
Sand Whiting.

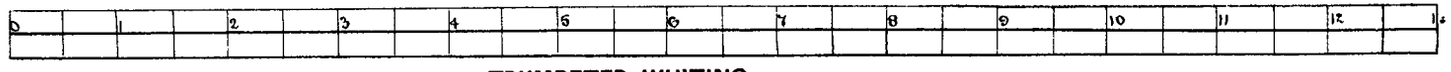
Sandy brown above with purple and green reflections; upper surface of head and the snout olive green; a broad but rather indistinct yellowish band along the middle of the sides; spinous dorsal with faint dusky blotches, the rayed with rows of blackish spots; anal and ventral golden; pectorals pale brown with a darker base; caudal yellowish with blackish margins.

There are two species of whiting on the New South Wales coast—the trumpeter whiting and the sand whiting. The habits of the two species do not materially differ, but the latter is larger and more handsome and is a greater market favourite. It is a delicious fish, and is regarded as a most suitable food for convalescing invalids—the flesh is of snowy whiteness, while in flavour it is perfect; like the gar-fish or the mullet, it has a distinctive taste entirely its own. Neither of the colonial species bears any similarity to the British whiting, which belongs to an entirely different family, the Gadus or cod tribe.

The trumpeter whiting sheds its spawn during the months of March and April—the ova is deposited on sandy beaches in sheltered bays and estuaries in shallow water, but the young fish are not observed until the early summer, the inference being that the coldness of the water during the intervening winter months impedes the development of the spawn. Ogilby says that each young fish is in possession of a hole in the sand, and at the mouth of it, which is only large enough to admit of the passage of its body, the little creature lies, and on approach of danger, or even the passage of a dark cloud across the sun, immediately disappears, the anterior half of the head however as quickly reappearing, thus showing that beneath the surface a chamber must exist sufficiently large to permit of the fish turning round with ease; should any movement occur to cause further alarm when in this position it is able to back down again into its hiding place with great celerity, but if perfect quiet is maintained it soon emerges and takes up its original position near the opening. To anyone curious in the matter it would be quite interesting to make observation of this habit, and it could easily be done (say) from such a position as the bridge over Narrabeen Lagoon or other similar points of vantage.

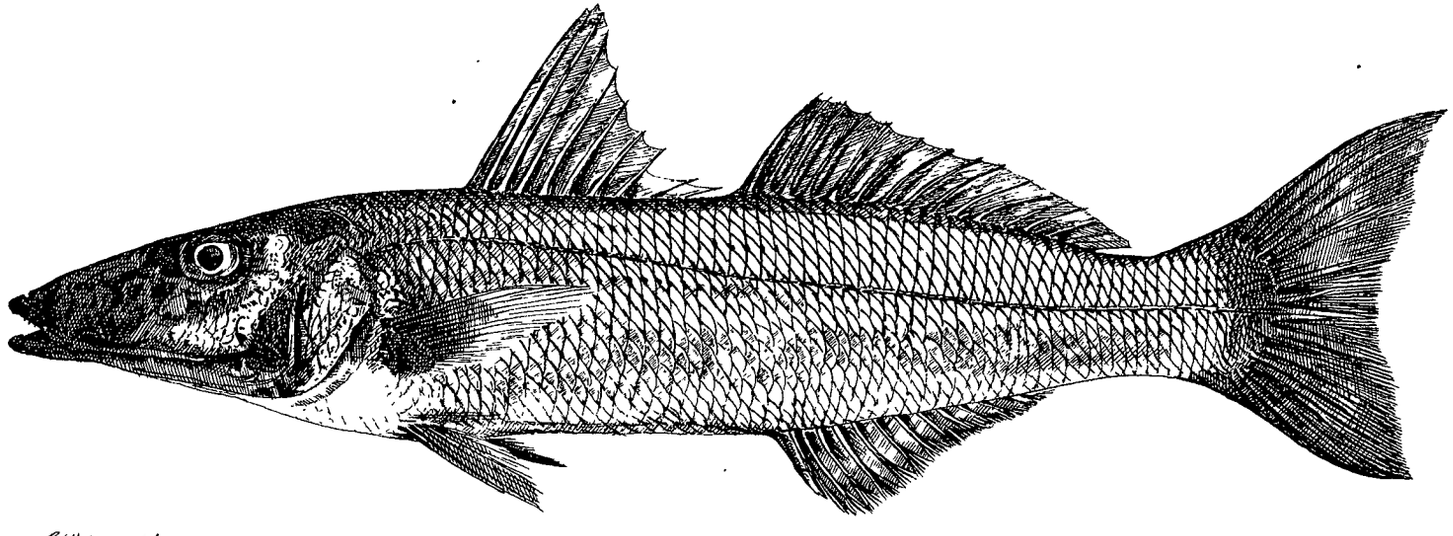
The breeding season of the sand whiting extends from October to December. The general mode of capture is by net, but the medium-sized fish is very generally caught by line on sandy flats and bays in smooth water. The best bait consists of small worms, but it can be attracted by any fish bait. The whiting is essentially a ground fish and, like its fry, has the habit, on approach of danger, of burying itself in the sand; in this way it frequently escapes capture by the net, which when too lightly leaded passes over the fish buried beneath. The whiting is present in our waters during the whole year, but the principal supply for market comes from Sydney Harbour, Botany, Broken Bay, Tuggerah Lakes, Lake Macquarie, and Wollongong.

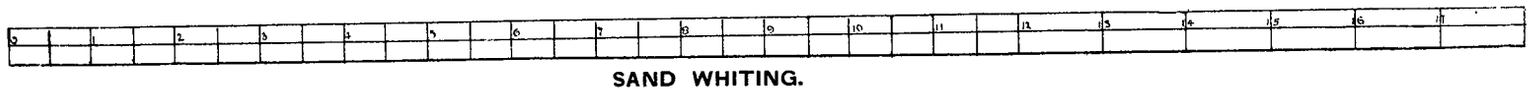




TRUMPETER WHITING.

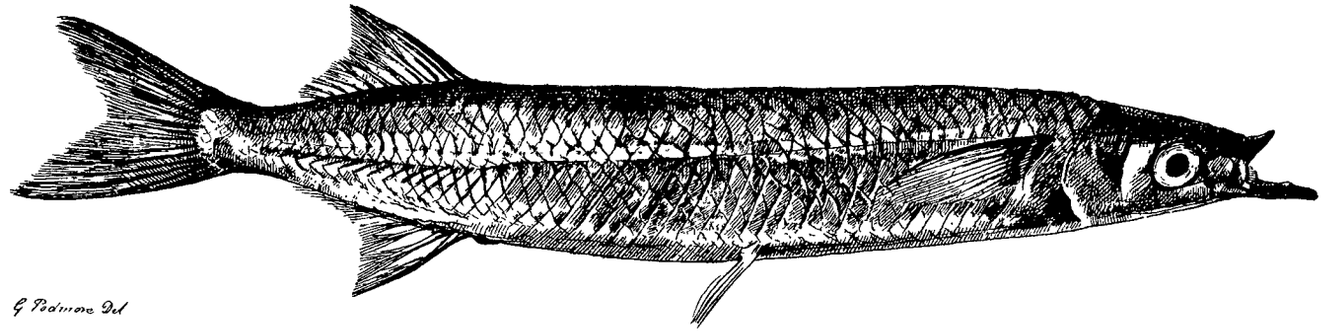
(Sillago maculata.)





SAND WHITING.

(Sillago ciliata.)

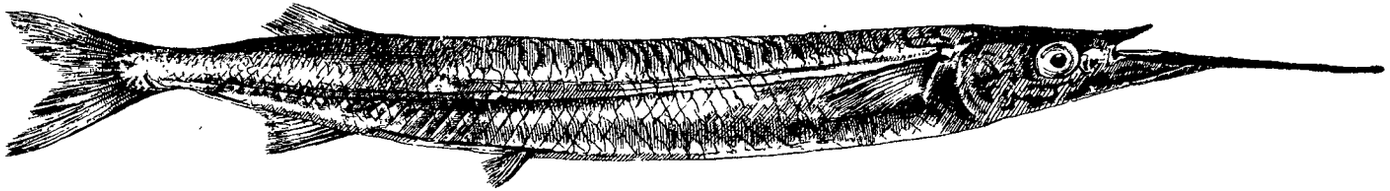


G. Podmore Del

1 2 3 4 5 6 7 8 9 10 11 12 13

SHORT-BEAKED GARFISH.

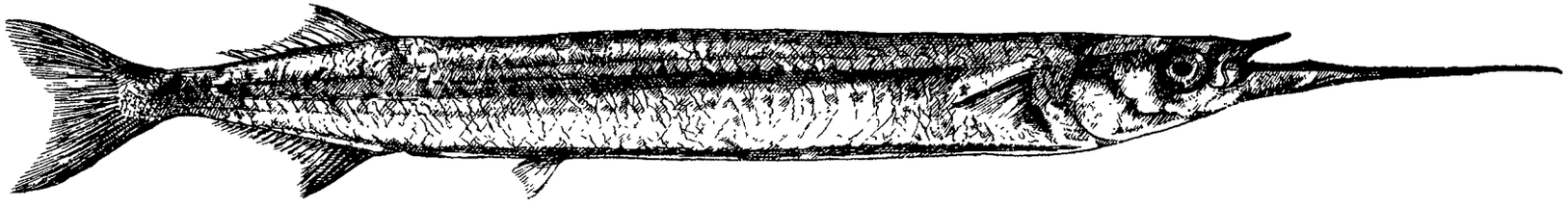
(*Hemiramphus sclerolepis.*)



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

RIVER GARFISH.

(*Hemiramphus regularis.*)



G Podmore del

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

(326-)

SEA GARFISH.

(*Hemiramphus intermedius.*)

THE GARFISH.

Family, **Scombresocidæ**; *genus*, **Hemiramphus.**

COLOURS.

The Sea Garfish.

Back bright green, with three narrow dark brown streaks from the occiput to the origin of the dorsal, immediately in front of which the three meet; a silvery lateral band, broadest posteriorly, and margined above by a narrower lead-colored band; lower surfaces pale greenish-silvery; posterior part of the ventrals and the pectorals dusky.

The River Garfish.

Back pale green, the upper surface of the head darker with golden reflections; three narrow black vertebral streaks not extending backwards to the dorsal; two similar but irregular and broader streaks between these and the broad lateral silvery band, which is boarded above by a narrow orange streak; a faint black spot at the base of the pectoral.

The Short-beaked Garfish.

Bright green above, the head darkest, pale green below; sides with a broad well defined silvery band.

There are three species of this fish—the sea, the river, and the short-beaked varieties. These fish possess a distinctive and most delicious flavour, a flesh white, flaky, and delicate, and are highly esteemed as a choice article of food. They are present in the market during nearly the whole year, the principal takes occurring during July, August, and September. Opinion is divided whether these fish spawn once or twice in the year, but at any rate they are found with ripening ova from September to November. The sea variety, known to professional fishermen as Ballahoo, which beyond doubt is the most excellent of the three, frequents only the lower parts of estuaries and rivers, and its capture is effected by seines of special construction. It may be readily distinguished from the river species by the shape of its triangular upper jaw, which is longer than broad, while in the river variety it is, on the contrary, broader than long. The sea garfish may also be distinguished by the deciduous character of its scales; indeed, so deciduous are they that the fish often appear to be without any scales at all.

The river variety, except that it is a permanent resident in streams, differs but little from its congener, but its range of occurrence seems more limited, extending only to the tropical and sub-tropical parts of the coast.

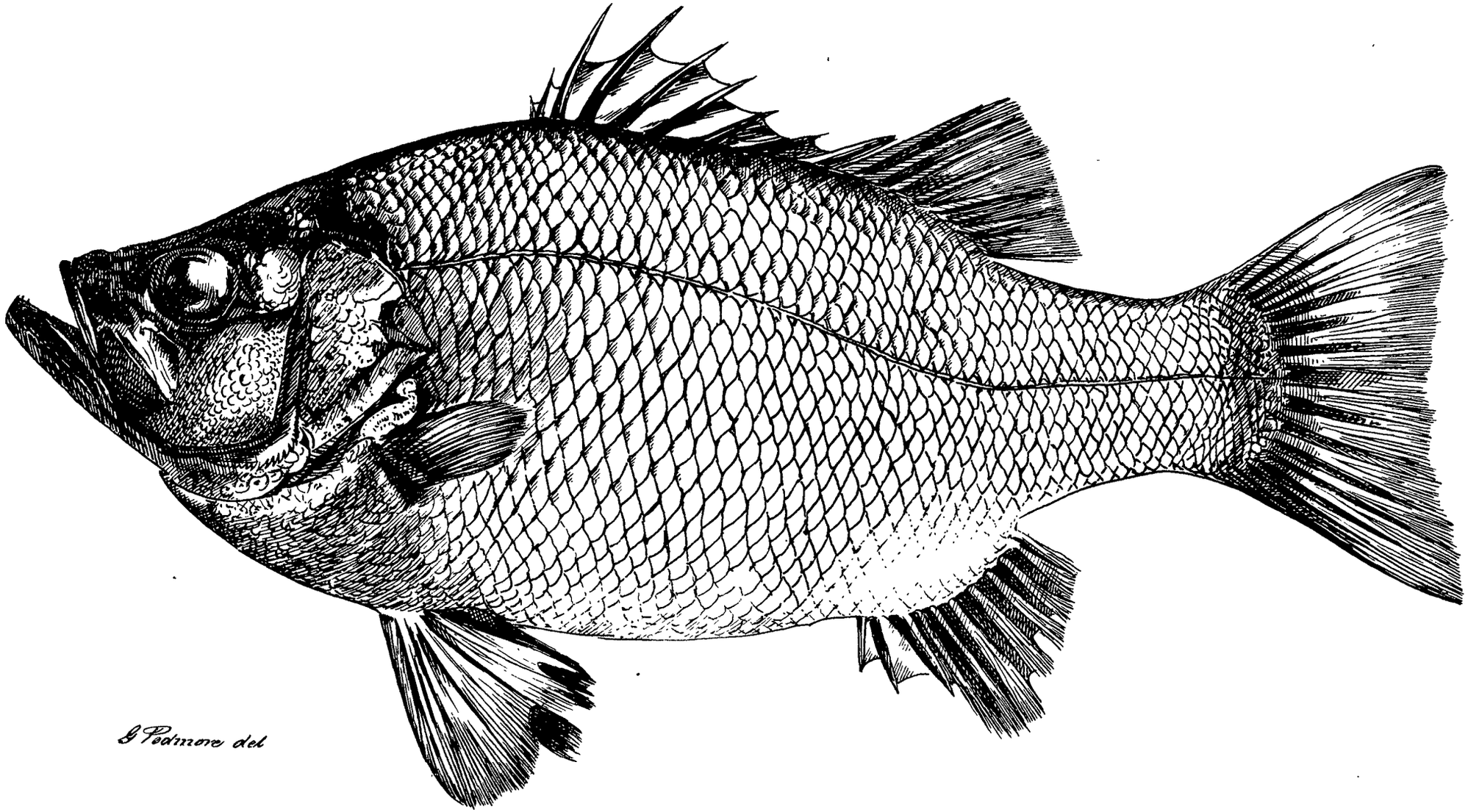
Of the short-beaked garfish there is not much to be said, except that it is most common in our northern rivers, from whence supplies are sent to Sydney during the summer months. Its time of spawning is supposed to be during those months.

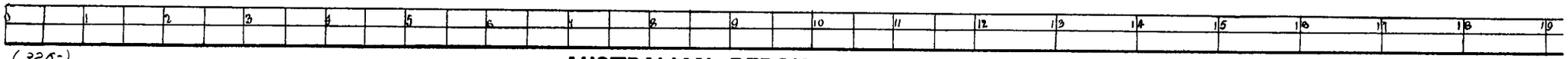
THE PERCH.

Family, **Percidæ**; *genus*, **Percalates.**

Colours.—Upper surfaces olive green, the head very dark; sides and lower surfaces gray washed with yellow; all the fins dark green.

There are several species of this family. The one referred to here is the perch of the Colony (percalates colonorum). It is really a fresh-water fish, that is to say, it has its origin in upper waters where the ova are deposited and hatched during the summer months, though in the more adult stage the fish frequents estuaries and mouths of rivers, and is extensively caught and sent to market. Its entrance into salt water very much improves its table value. When in that element its food consists principally of small fish and prawns, and these it will take readily as baits, but when located in its more proper habitat, the upper waters, it will take also worms, frogs, grubs, moths, grasshoppers, and such like. The perch is said to spawn in the winter months, but some fishermen contend that it spawns between November and January. It deposits its spawn amongst logs and debris in lagoons and upper waters. The perch frequenting the sea attain a weight of 7 or 8 lbs., while those captured in the river seldom exceed 3 or 4 lbs. The perch affords good sport to anglers. It loves quiet shady and deep holes in rivers, but when the tide is flowing it may be caught in the stream. In winter the particular bait is a small mullet or herring, or, better still, one of the small grubs that bore into trees. In the early spring months it will take a moth readily, either sunk or on the surface. The artificial salmon fly is also a splendid bait for trolling at this time. When moths are scarce a frog is a good bait at night; it must be fastened so that it can swim, or, if dead, must be played in the water to imitate a frog swimming. In summer, grasshoppers, especially the species known popularly as the "percher," are a good bait, but the best is a black house-cricket or an earth-worm. A prawn will be found effective when crickets cannot be obtained. The bait should be at least 4 feet from the float. In landing the fish great care should be used as the mouth is weak, and is easily torn away. As a rule, perch prefer tributary streams to main waters.





(326-)

AUSTRALIAN PERCH.

(*Percalates colonorum.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

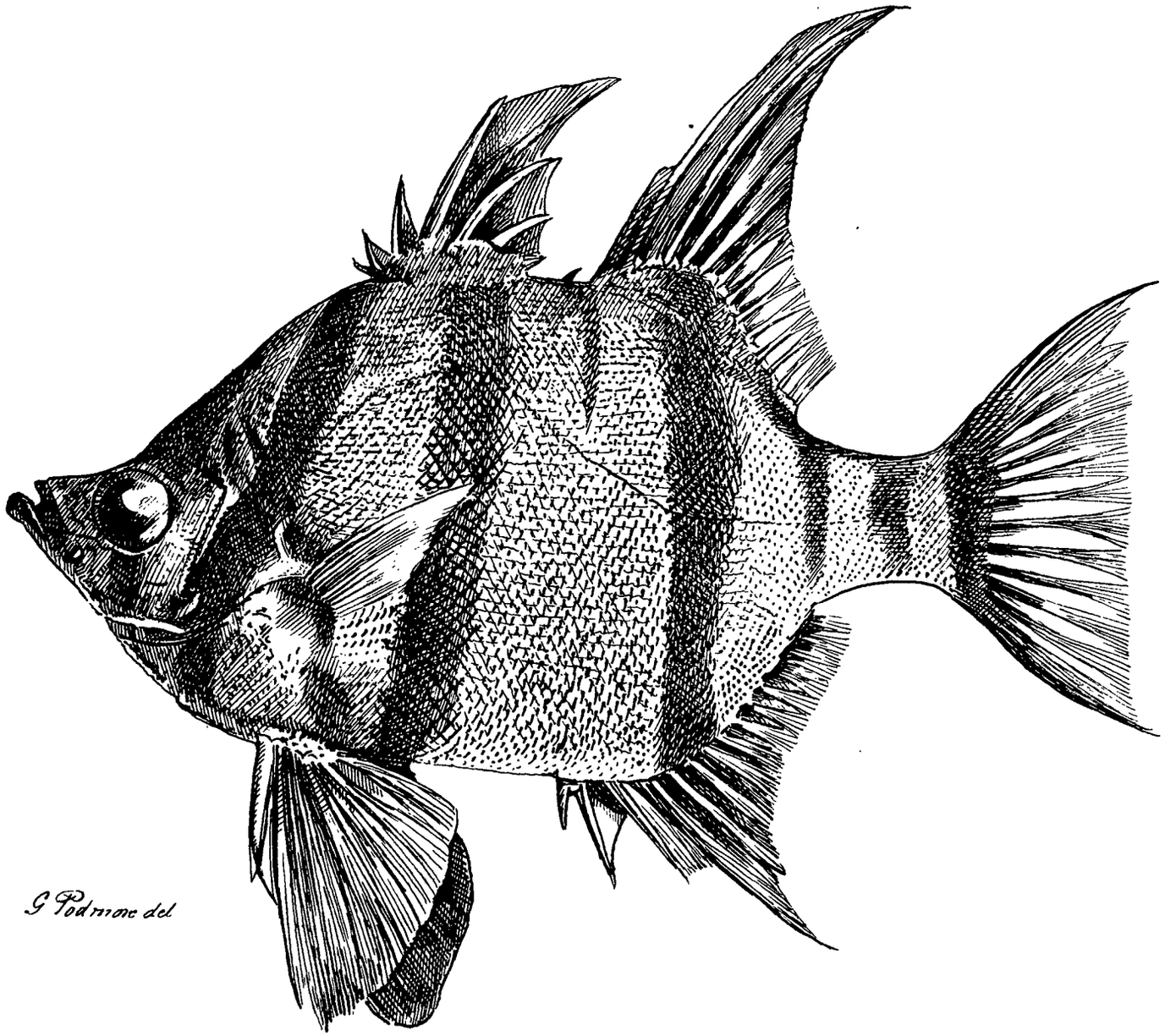
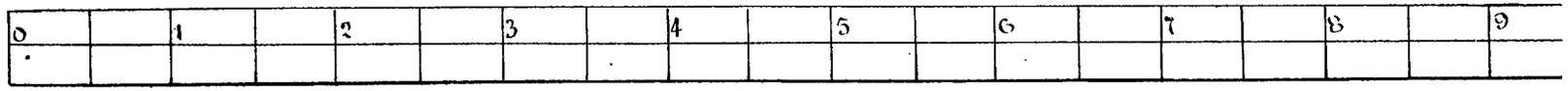


PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



(326-)

OLD WIFE.

(*Enoplosus armatus.*)

THE OLD WIFE.

Family, **Percidæ**; *genus*, **Enoplosus.**

Colours.– Silvery white, with eight blackish vertical bands, the first from immediately behind the occiput passing obliquely forwards and downwards through the eye, and sending two narrow branches along the interorbital space to the snout; the second from in front of the first dorsal to the base of the ventral; the third very broad, beneath the first dorsal, and extending on to that fin; the fourth narrow, beneath the dorsal interspace; the fifth broad, between the soft dorsal and the anal, and continued to the extremities of their elongated rays; the sixth narrow, from behind the dorsal to the last anal rays; the seventh across the caudal pedicle, and the eighth across the base of the caudal fin.

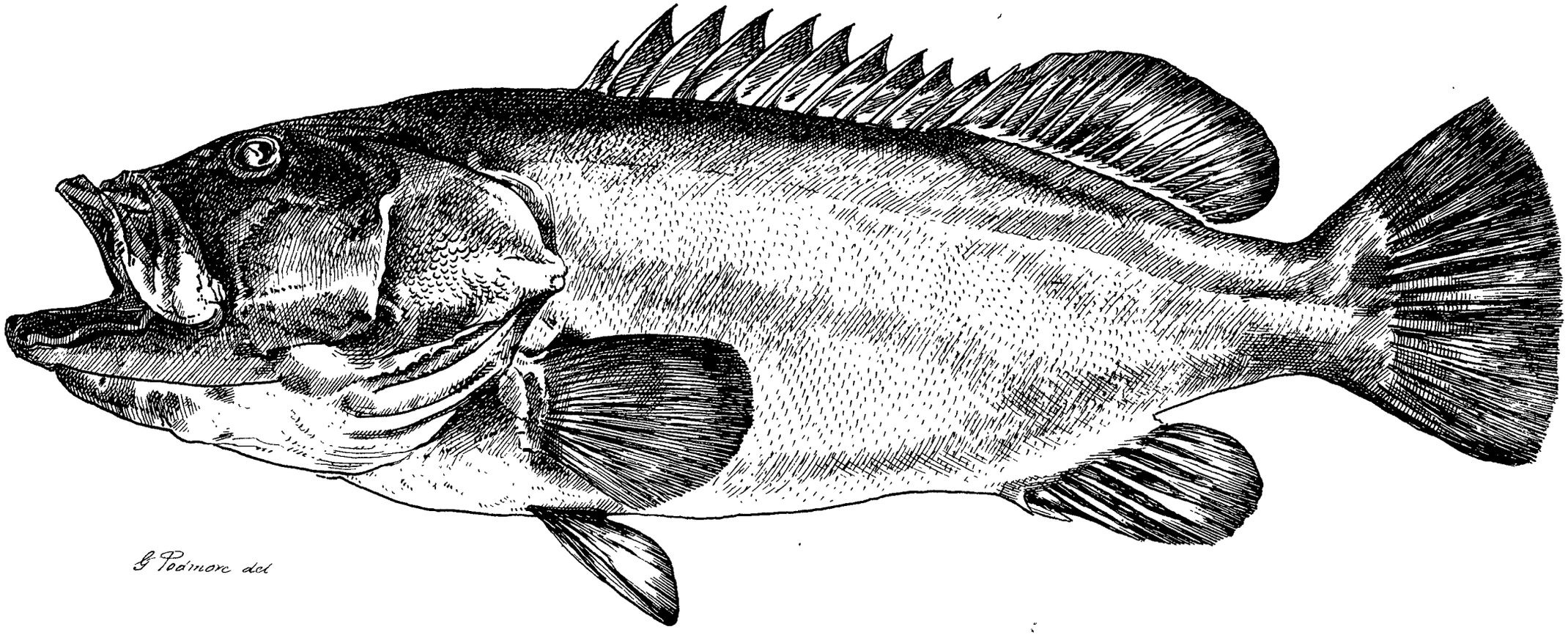
Nothing is known of the breeding habits of the "Old Wife." It is but seldom captured by the hook, although it is abundant in sheltered parts of bays and estuaries, also frequenting wharves and probably attaching its ova to the tangle. Being an excellent fish for the table, it is to be regretted that it does not appear more frequently in the market, but this is probably owing to its habitat being on foul ground which the net cannot reach. It attains a length of 12 inches, the average length being 6 inches. It is known in Melbourne as the Bastard Dory, owing to its shape and the prolongation of the rays of the dorsal fin. It is also called the Zebra fish from its striped appearance.

THE BLACK ROCK COD.

Family, **Percidæ**; *genus*, **Serranus.**

Colours.—Body and fins deep blue black, uniform in the adult; young examples with or without scattered lighter spots on the sides of the head and body, and a black spot crossing the caudal pedicle above; spinous dorsal with a darker, soft dorsal and anal with a lighter submarginal band.

This fish, commonly known as the sea-perch, was in former days very abundant in waters adjacent to Port Jackson, but at the present time it is rarely captured there, though on the more northern parts of the coast it is abundant and grows to a large size, approaching in weight to something like 100 lb. A specially favourite ground for this fish is the coast-line between the Macleay and Clarence Rivers. It has been found as far south as Jervis Bay. For the table it is most excellent, possessing a flesh of exceeding whiteness, very firm and flaky, and of perfect flavour; by some it is regarded as the best edible fish on the coast. At Lord Howe Island, where it abounds, it is highly valued. But little, if anything, is known of the habits of this fish. Its time of spawning is supposed to be midsummer, though its mode of deposition and places of retreat for its fry are unknown. The habitat of this fish being in deep water, in the vicinity of rocks and reefs, it is captured only by line, and being very voracious takes a bait greedily. When once hooked it exhibits very little spirit, and suffers itself to be hauled up with very little show of resistance.

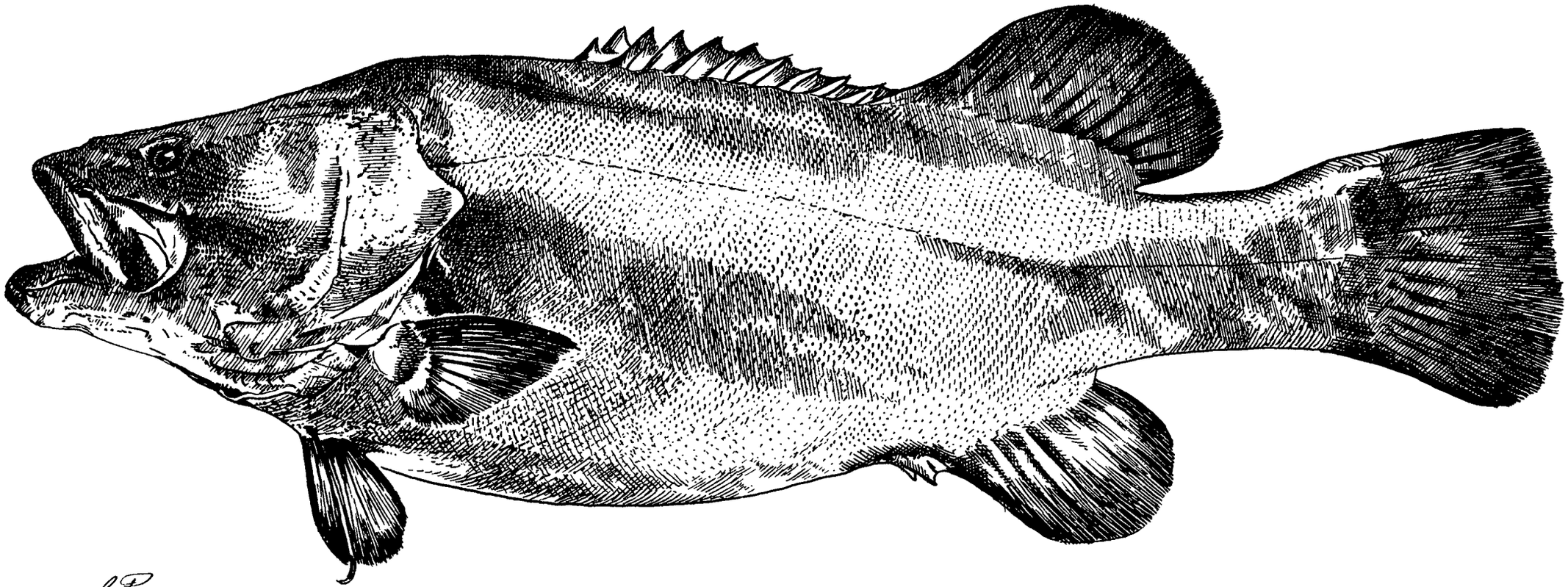


(326-)

BLACK ROCK-COD.

(*Serranus daemeli.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



G Podmore del

(326-)

MURRAY COD.

(*Oligorus macquariensis.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE MURRAY COD.

Family, **Percidæ**; *genus*, **Oligorus.**

Colours.—Olive green above, with numerous small darker spots; below white or pale yellow; soft dorsal, anal, and caudal fins with or without pale margins.

This fish might more properly be termed the cod perch. We are said to have two principal species, the *Macquariensis* and the *Mitchelli*; the latter differing from the former in having a much broader head, a larger eye, the upper jaw longer than the lower, and a greater height of body. By the aboriginals of the Lower Murray the fish is known as "Pundy," and by those of the Murrumbidgee "Kookoobul." It is very voracious, devouring everything that its enormous jaws can compass. It has been known to reach a weight of 120 lb. The Murray cod is the principal fresh-water fish indigenous to the Colony which we possess, and it is much esteemed for the table; the flesh is snow-white, rich, flaky, and has a flavour distinctly and peculiarly its own. The young fish are to be found in the billabongs and at the heads of streams, the adult fish lower down. They seem to have their period of migration, ascending streams, in summer and descending them in winter; but as they thrive well in Lake George, where they cannot make their ascent and descent, their propagation and development are evidently not dependent upon facilities for migration. Not much has been attempted in distributing this fish in our various rivers. That it is capable of distribution is evidenced by the fact that it has been introduced successfully into Lake George, and that it has been found also in the Clarence River. Very little art is needed in the capture of this fish, a strong line, a large hook, and a bait consisting of beef or large grubs being all the appliances necessary. Indeed, being voracious and predatory to a degree, he can be lured by almost anything; but, when fairly hooked, he succumbs very quickly and remains quiescent until lifted into the boat, which, on account of his often great weight, is usually accomplished by means of a small scoop-net. The fish can also be captured by set lines baited in the like way. The set lines should be laid at night and overhauled early the following morning or even earlier if found convenient; but the method of capture of this fish in quantity is by net. Although contrary to law, these nets are frequently set right across a stream and are provided each with a huge bag; by this means every fish, small and large, passing along a stream is captured. It is in this way that much of the large supply which is sent from the Murray to Melbourne is secured, No exact season for spawning can be stated. It is probable that it spawns in different rivers at different times. Those in the Murrumbidgee River are said to spawn between November and January. A peculiarity in connection with the Murray cod may be stated. It is that it carries within itself a perfect drawing of a tree. Some contend that it is an impression of the tree under which it had spawned. Be that as it may, it is within the means of any angler to obtain a view of the tree, or even to remove the tissue on which it is impressed, and preserve it for exhibition to his friends. The *modus operandi* is as follows:—Lay the fish on his port or left side—that is, with his back fin towards the right hand; then cut from the tail close along the backbone as far as the first rib; cut the first rib through, but be careful not to disturb a very thin transparent skin, something like tissue paper; if necessary spring a few more of the ribs and pull the fish asunder, the picture of the tree will then be exposed in the skin, on which, if carefully removed and spread on a sheet of paper, it will be more plainly seen.

THE BLUE GROPER.

Family, **Labridæ**; *genus*, **Platychærops.**

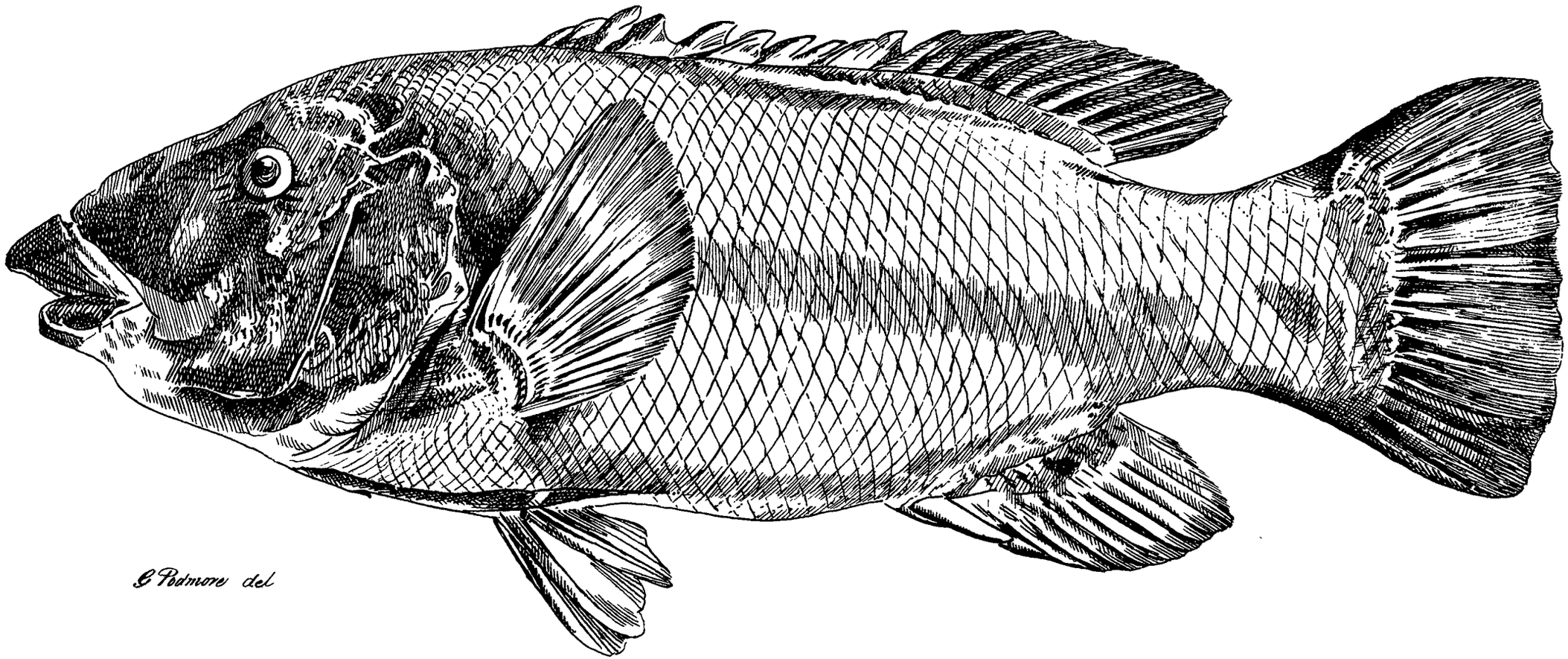
Colours.—Above purplish-brown, sides and lower surface yellowish-brown, each scale with an orange spot or vertical bar; a narrow orange band encircles the eye; sides of snout with three similar bands, one of which crosses the cheek, separated by blue bands; fins purple, the membranes of the anterior rays of the dorsal and anal with orange spots; all these markings are most conspicuous in the young, but almost totally disappear in adult examples.

The blue groper, which has probably obtained its name from its habits, is essentially a rock-loving fish, its favourite haunts being rocky points, rising from a moderate depth, and with the bottom shelving somewhat rapidly into deep water; in such spots it may be found, coming in with the flood tide to search every wave-worn crevice and channel for the molluscs, crustaceans, echinoderms, and starfishes, which form the bulk of its food, and retiring with the ebb to the deeper waters in the vicinity; it is an unsociable fish, not more than two being found about the same spot, and then possibly only during the spawning season, and each one appears to confine itself to its own particular stretch of shore.

It is a clumsy-looking fish with large scales very difficult of removal, except immediately after capture, while even then it is a somewhat difficult task. The fish attains to a maximum weight of 40 lb., and a length of $3\frac{1}{2}$ feet. Nothing positive is known of its breeding habits, but it is supposed that the ova is deposited in crannies amongst weed-covered rocks.

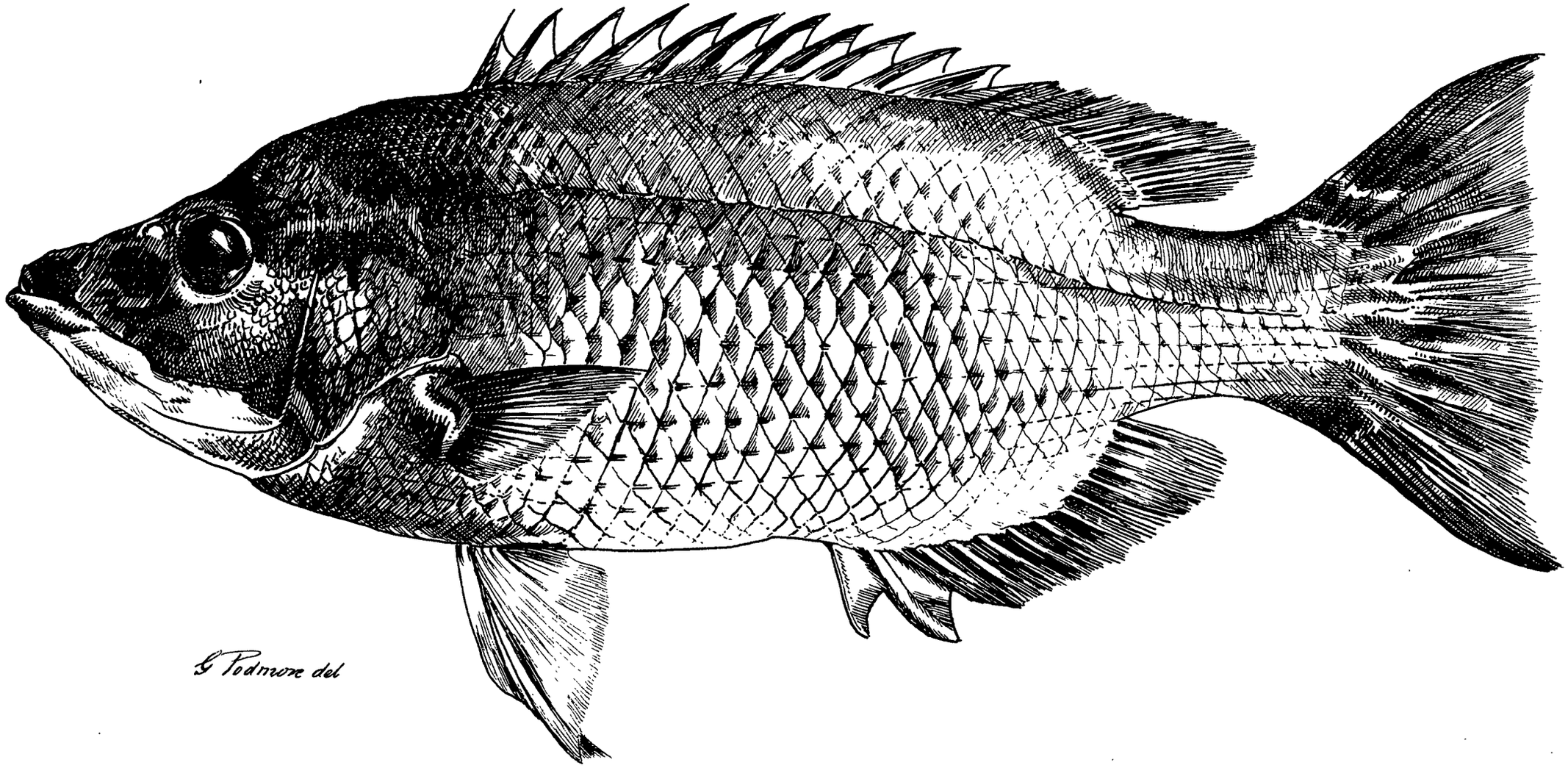
Blue gropers are sometimes taken in the meshing-net, but the greater number sent to the market are caught by hook and line, crab, squid, and cuttle being the best baits. Mr. E. S. Hill says that the bait should be crabs; it is usual to wrench off the legs and shell, and having broken them up throw them out as berley mixed with oysters and comminuted oyster-shells, by which means they are often decoyed from their hiding-places; "the body of the crab is then secured to the hook with a piece of thread or flax and thrown out; if a groper should be at home that is the surest way to entice it."

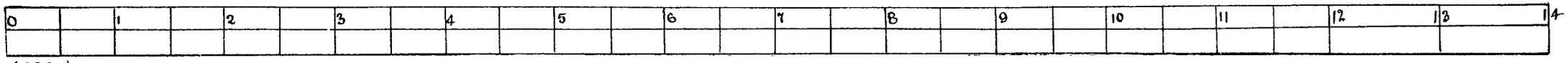
It is somewhat surprising that the blue groper, though an excellent table fish and of common occurrence on our coast, is rarely to be seen in the market, even though it can always command a high price.



BLUE GROPER.

(*Platychærops gouldi.*)





(326-)

PIG FISH.

(*Cossyphus unimaculatus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE PIG FISH.

Family, **Labridæ**; *genus*, **Cossyphus.**

COLOURS.

Spotted Pig Fish.

Deep scarlet above, gradually changing into pink or saffron yellow below; each scale on the sides has a narrow median reddish streak, thus giving the fish a longitudinally banded appearance; a large pinkish patch below the origin of the rayed dorsal, and some small spots of a similar colour in front of it on or near the lateral line; dorsal and caudal fins scarlet, with a more or less broad lighter margin; the former with a large dark blue spot between the sixth and eighth or seventh and ninth spines, surrounded, except at its base, by a pearly white band, similar, but small, spots generally present on the adjoining spines; anal scarlet anteriorly, yellowish posteriorly; ventrals hyaline, with the outer ray golden; pectorals reddish, with a small dark blue axillary spot; irides orange.

Banded Pig Fish.

Red above, the upper surface of the head brightest, gradually passing into pale saffron below; each series of scales with a narrow, dull, reddish-brown longitudinal streak; three rows of oblong crimson spots on the back and sides, the upper one just below the base of the dorsal fin; the median and lower rows commencing close together at the posterior margin of the eye, the former following the curvature of the lateral line, the latter straight; spinous, dorsal, pectorals, and ventrals pink; rayed dorsal, anal, and caudal yellow; irides silvery, with three orange spots round the pupil.

There is but little if any difference in the habits and mode of life of these two species, except that the spawning time of the latter may be a trifle the earlier, fully developed ova having been found towards the end of July, while the former has been found with ova ripe for extrusion in September or October, but nothing is recorded or known as to places of deposition or subsequent habitat. As may be judged from the colours above described this fish presents a very handsome appearance. It is also an excellent table fish, possessing all esteemed qualifications. It has acquired its name on account of its elongate conical snout and its thick fleshy lips, this peculiarity being common to the Labridæ family. It is a littoral fish, feeding chiefly on molluscs and crustaceans, its system of dentition being admirably adapted for crushing hard substances. It is not a common fish in the market though scientists contend that it should be abundant in all suitable localities in the vicinity of Port Jackson at least, though its occurrence on other parts of the coast is not recorded.

THE SERGEANT BAKER.

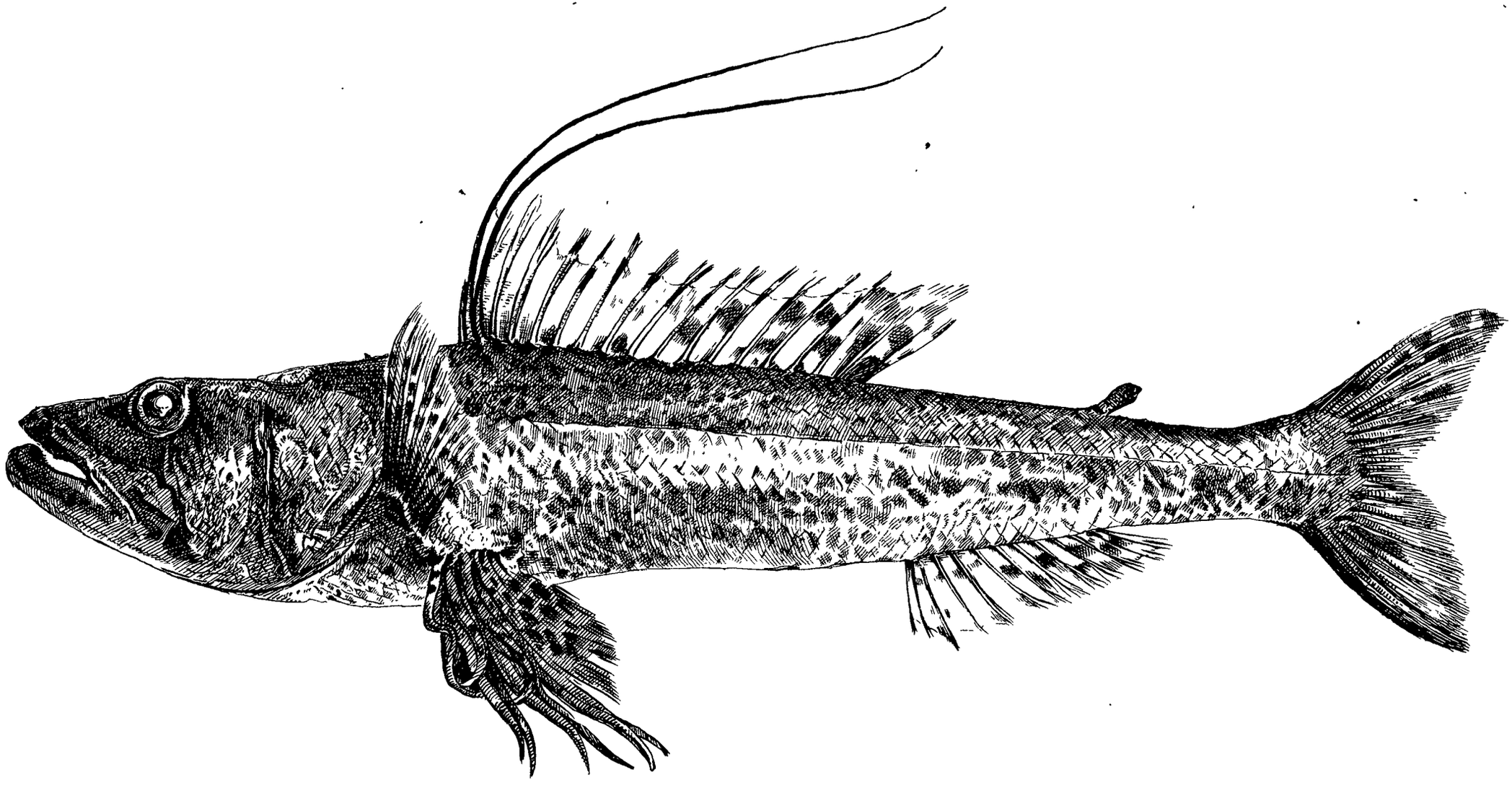
Family, **Scopelidæ**; *genus*, **Aulopus.**

Colours.—Upper surfaces purple with a more or less prevailing tinge of red and with the edges of the scales crimson, and the top of the head sometimes spotted with the same colour; back and sides with large irregular crimson spots or transverse bands covering two or three scales in width, not reaching across the abdomen; the sides are of a paler purplish-red than the back, and gradually merge into the pearly white of the abdominal region; dorsal and caudal fins pale yellowish-red obliquely banded with rows of crimson spots, which are frequently confluent on the caudal lobes; adipose fin basally purple, terminally crimson; and white or pale straw-colour with orange longitudinal bands; ventrals and pectorals yellow with crimson transverse bands.

The Sergeant Baker—so named probably from having been first obtained after the founding of the settlement by a sergeant of that name—frequents moderately deep water on the outside reefs, but is rarely taken inside Port Jackson. It is not an uncommon fish, but as those which find their way to the Sydney market are with rare exceptions taken by the schnapper fishers the supply is never equal to the demand. In examining a series of fresh specimens taken at all seasons of the year two points are likely to strike the observer, namely, that the stomach will almost invariably be found empty, it being exceedingly rare to find ova in any stage of development in the ovaries; in a few cases ova have been detected in a very early stage, and these occurred during the spring months. It is a good fish for the table, the flesh being white, firm, flaky, and well flavored.

Its range is very imperfectly known.

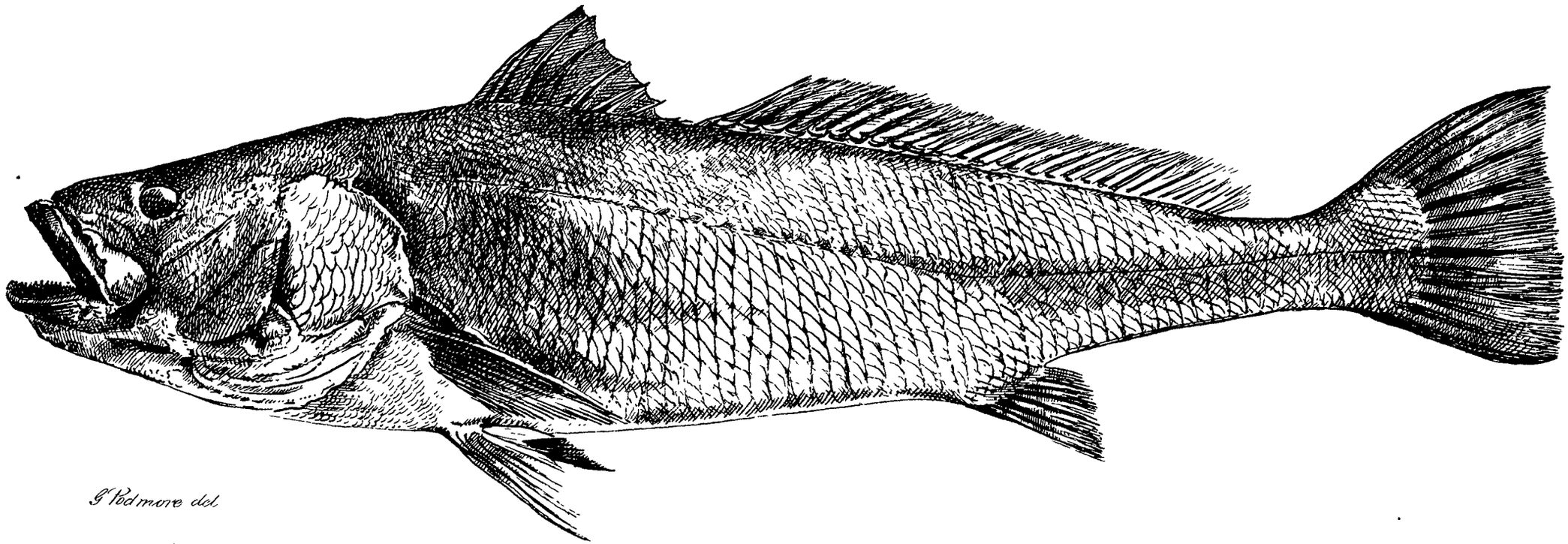
The Sergeant Baker attains to a length of 24 inches, and may be captured by line and very occasionally by net.

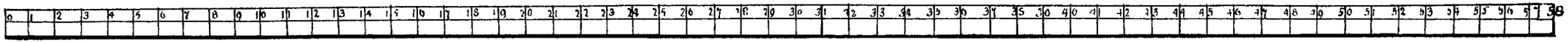


G Podmore del

SERGEANT BAKER.

(*Aulopus purpurrisatus.*)





JEWFISH.

(*Sciæna aquila.*)

THE JEWFISH.

Family, Sciænidæ; *genus*, Sciæna.

Colours.—Deep steel blue above, gradually changing through the silvery of the sides into the white of the lower surfaces; head not so brilliantly tinted above as the back, its sides suffused with gold; a black axillary blotch; all the fins, except the ventrals which are white, pale brown; irides golden and brown; inside of jaws and lower margin of the opercular region orange.

The jewfish attains an immense size, and is abundant along the whole stretch of our coastal line—it is exceedingly voracious, and nothing in the shape of fish comes amiss to it. The adult is extremely cunning; when in search of its prey it will ascend rivers even beyond the limits of tidal influence, making sad havoc amongst spawn and fry. But little is known of its time of breeding, though one observer, Mr. Hood Pegus, of Yamba, at the mouth of the Clarence River, asserts that it spawns in May. The air bladder of this fish is unusually large. It was in evidence before the Fisheries Inquiry Commission of 1880 that the bladder of fish of this genus formed, on the Malacca and Indian Coasts, a valuable article of export, the merely dried bladder being worth three shillings of our money per pound. It is a matter for regret that in New South Wales no heed is paid to this as a commercial product, the bladders of many thousands of fish caught annually being thrown away in common with the scales and entrails.

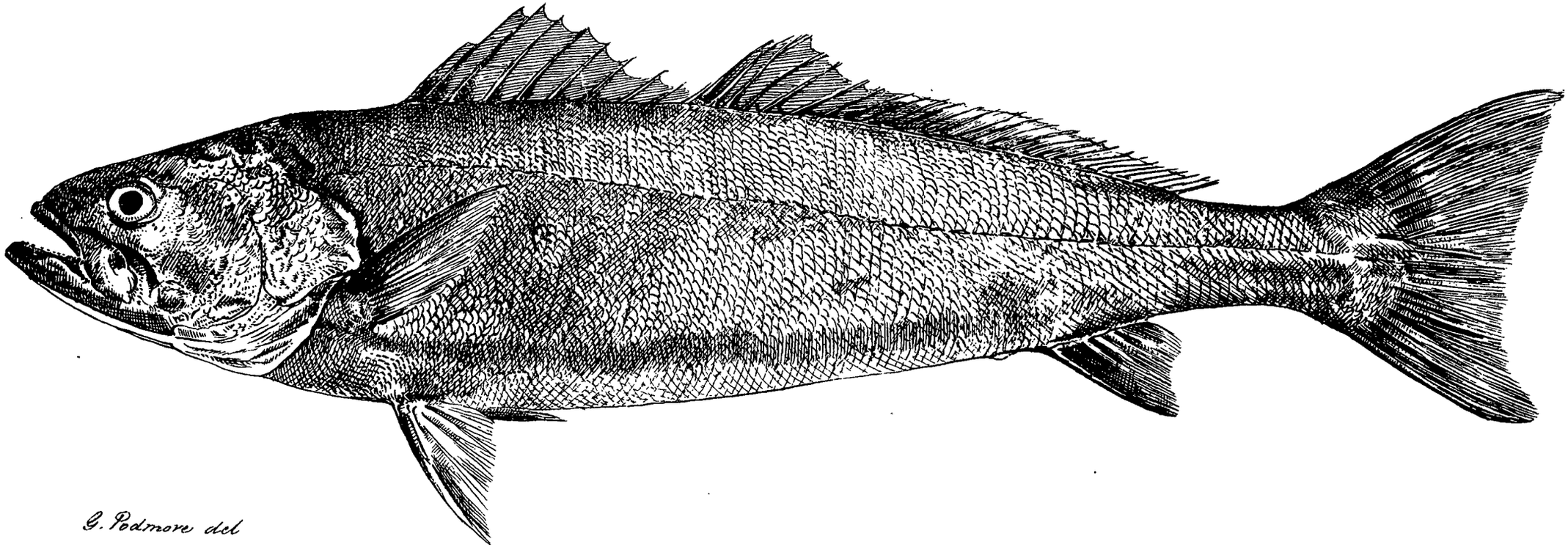
The jewfish seizes fish or squid bait voraciously, and affords splendid sport to the amateur, as when hooked it fights dearly for life. It frequents points where the water is deep and the tide strong. Here it lies in wait for its prey, but after rain, when the water is muddy and discoloured, it sallies out thence in every direction. Early morning or nightfall is a favourite time for fishing for jewfish. The jew is a much prized fish in restaurants, the flesh being white and of fair flavour. When schnapper is scarce, the jew is frequently served up as schnapper, from which in the cooked state it cannot readily be distinguished, except, of course, by connoisseurs. The fish cures very readily, and when properly smoked is an excellent article of diet. An adult fish will weigh from 50 to 60 lb.; at this weight the flesh is coarse and unpalatable; when under 2 feet in length it is called the silver jew, and in that stage is most suitable for food.

THE TERAGLIN.

Family, **Sciænidæ**; *genus*, **Otelithus.**

Colors.—Upper surface and sides silvery, below white; dorsals yellowish-gray with darker spots at the base; caudal yellowish-gray with the outer margins dark; pectorals with a black spot at the base inside; ventrals pink; anal silvery with the elongate rays dusky; inside of mouth and inner margin of opercle orange.

The name teraglin is stated to be aboriginal, but its signification is not known, neither are the habits or manner of life of the fish. Our first acquaintance with it is when it makes its appearance from seaward during the late winter and the spring months. Like the jewfish it is very rapacious, but as to a great extent it confines itself to the vicinity of the mouths and rivers of estuaries, that is to say, it seldom ascends upper waters, it is not so generally destructive to young fish-life as its congener. Ogilby states that, so far as is known, it is found only on the New South Wales coast. It has a fine handsome appearance, and is amongst the best of our food fishes, being superior to the silver jew. It would seem from official returns that its principal resorts are the harbour of Port Jackson, Botany Bay, and Long Reef, though doubtless it is present in more or less quantity all along the seaboard. Like the jewfish its air-bladder is of large size, and could be profitably used in the manufacture of isinglass. It is said that the bladders, without any preparation beyond simple drying in the sun, would be worth from threepence to sixpence each.



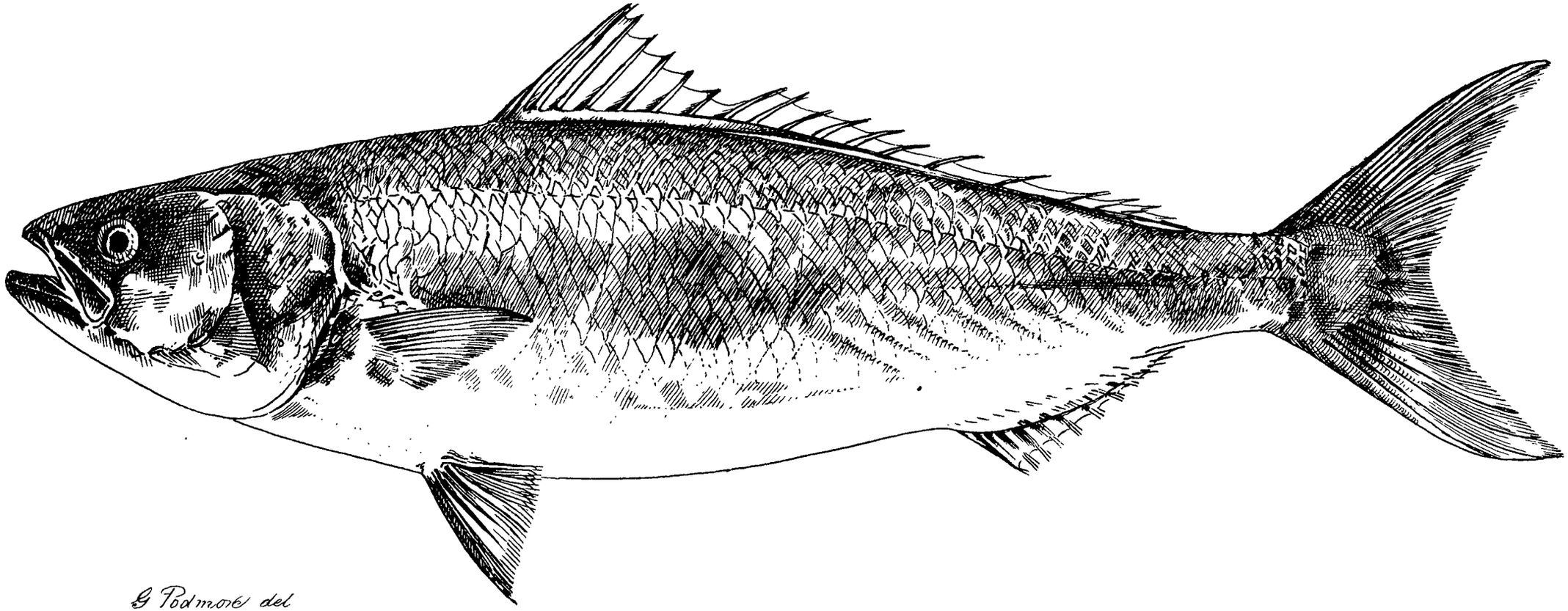
G. Podmore del

(326-)

TERAGLIN.

(*Otolithus atelodus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



G Podmore del

(326-)

AUSTRALIAN SALMON.

(*Arripis salar.*)

THE AUSTRALIAN SALMON.

Family, **Grystidæ**; *genus*, **Arripis.**

Colours.—Upper surfaces green, the head the darkest; young examples with darker spots; lower surfaces white; fins hyaline.

The species—*salar*—in its adult state, is known to Australian fishermen as salmon, and its young as salmon-trout, but it must not be confounded with the Salmonidæ family, to which it bears no relation whatever. It obtains its name merely from a similarity to that fish in its shape and bright appearance, and from its lively habits.

During the summer months the Australian salmon presents itself in immense shoals, and at these times so numerous and general is the catch that often the fish becomes so perfect a drug in the market as to be almost unsaleable, and when other fish are abundant the fishermen find it not worth while to send it to market at all. Bushels upon bushels of salmon have, upon occasion, been left upon beaches to rot. On one of these occasions at Lake Macquarie these dead fish induced such a pestilential condition of the air that special means had to be taken to remove them.

The salmon-trout is a very fair table-fish, and Cohen contends that the adult salmon also would, if properly and systematically utilised, yield ample profit to all concerned in the industry. He asserts that if treated after the manner of cod or ling it would form as palatable an article of food, and that, considering our large imports of those fish, it is more than surprising that it should be allowed, year after year, to pass our doors, as it were, untouched and unheeded.

The Australian salmon is supposed to commence spawning in September, but very little is known as to place of deposition, though, as small fry are sometimes found washed ashore on ocean beaches after heavy weather, there is a possibility of the spawn having been deposited in the sand in suitable places. The salmon especially those which have been previously wounded take a bait freely. Their food consists of fishes and crabs.

THE MACKEREL.

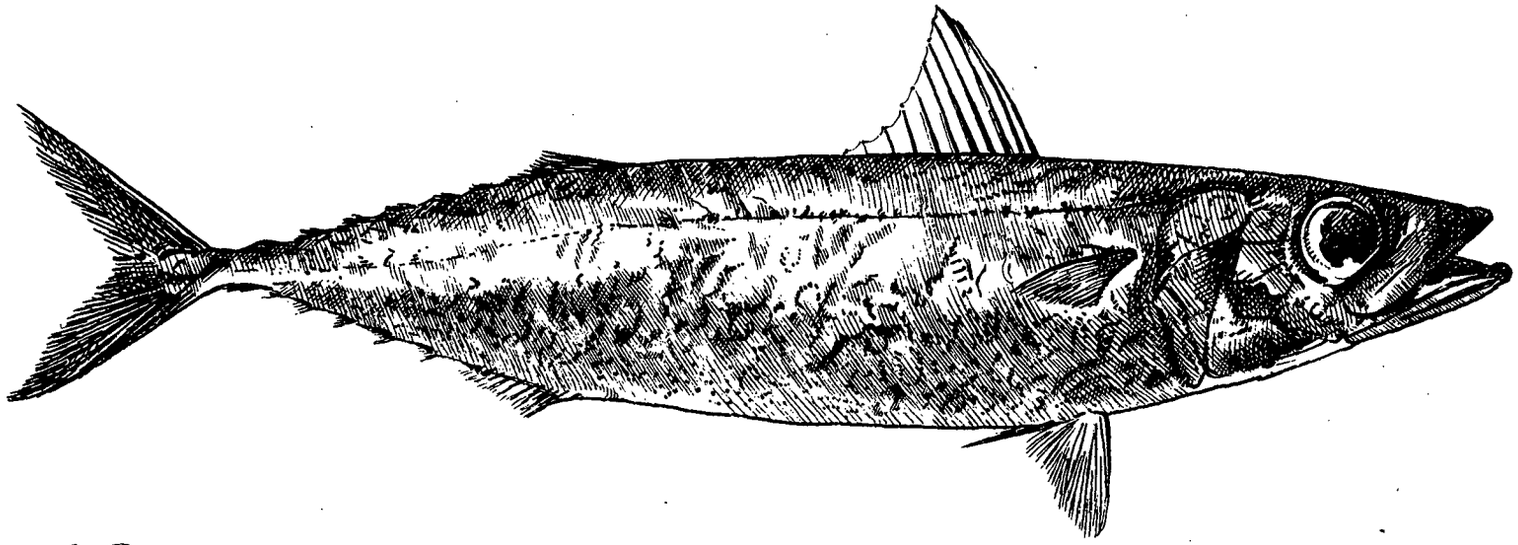
Family, Scombridæ; *genus*, Scomber.

Colours.—Upper surfaces bright-green, frequently becoming dark-blue after death, with numerous irregular, wavy, transverse bars; sides paler green, with darker spots and short streaks; lower surfaces pearly white, washed with orange and pink, and ornamented with many more or less indistinct dark-gray blotches and spots; interorbital space pale; cheeks with a golden tinge.

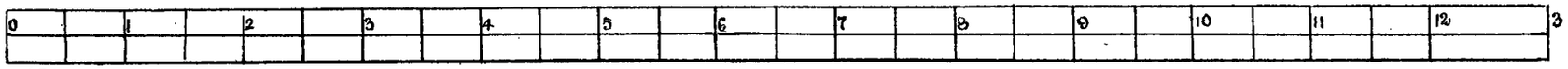
Large shoals of mackerel appear upon our coast at irregular intervals during the year, and their visits may number as many as three or even four in the twelve months or may be entirely wanting during a similar period. Those shoals which periodically appear in the bays and inlets of our deeply indented coast, consists entirely of immature fishes, never or very rarely exceeding 12 inches in length, and showing no trace of their having spawned in the past, nor any likelihood of their so doing in the near future. We are, therefore, indebted for these visits solely to the abundance or scarcity of suitable food, which consists chiefly of the fry of other fishes, and, according to Mr. Edward Hill, of shrimps and young prawns. Taking into consideration the thousands of individuals which go to comprise a single shoal, and their extreme voracity, necessitated by an exceptionally active mode of life, it is not surprising that these sources of food supply are quickly exhausted, and this having been effected the shoals disappear as suddenly as they had previously made their appearance. There seems, however, to be a general consensus of opinion that enormous shoals of mackerel annually pass along our coast about midsummer, heading in a northerly direction, but whether these shoals consist of adult and breeding fishes, or what their ultimate destination is, can only be conjectured. It is, however, more than probable that these shoals are engaged in the very act of shedding their spawn. The mackerel, though normally a fish of very rapid growth, such growth may be retarded by the absence of suitable food, or by a long continuance of cold and stormy weather.

Mackerel give excellent sport to the line fisher, either from a boat under easy sail or anchored in a strong tideway, so as to permit of the lines, of which it is always best to use several in each boat, streaming away behind, the sinkers used being of course graduated to the swiftness with which the boat is moving or the strength of the tide; nor must it be lost sight of that the Australascius species is much more liable to be taken near the bottom than from the surface. Mackerel are not by any means choice in their selection of a bait, almost any glittering substance being sufficient to attract them, but the most effective is a strip cut off the side of the tail of another mackerel, which, when in motion through the water, has a wonderful resemblance to the sinuous movements of a small fish, and being exceedingly tough a single bait may with care be used for the capture of a number of individuals.

Mackerel are excellent when freshly caught but they will not stand exposure to the light of sun or moon, They become flaccid and dangerous as food, and even as bait they are soft. Care should be taken to use them for the table only when fully assured of their immediately previous removal from the water. In that stage, and having been well bled, the mackerel is an excellent food.



Geo Podmore del

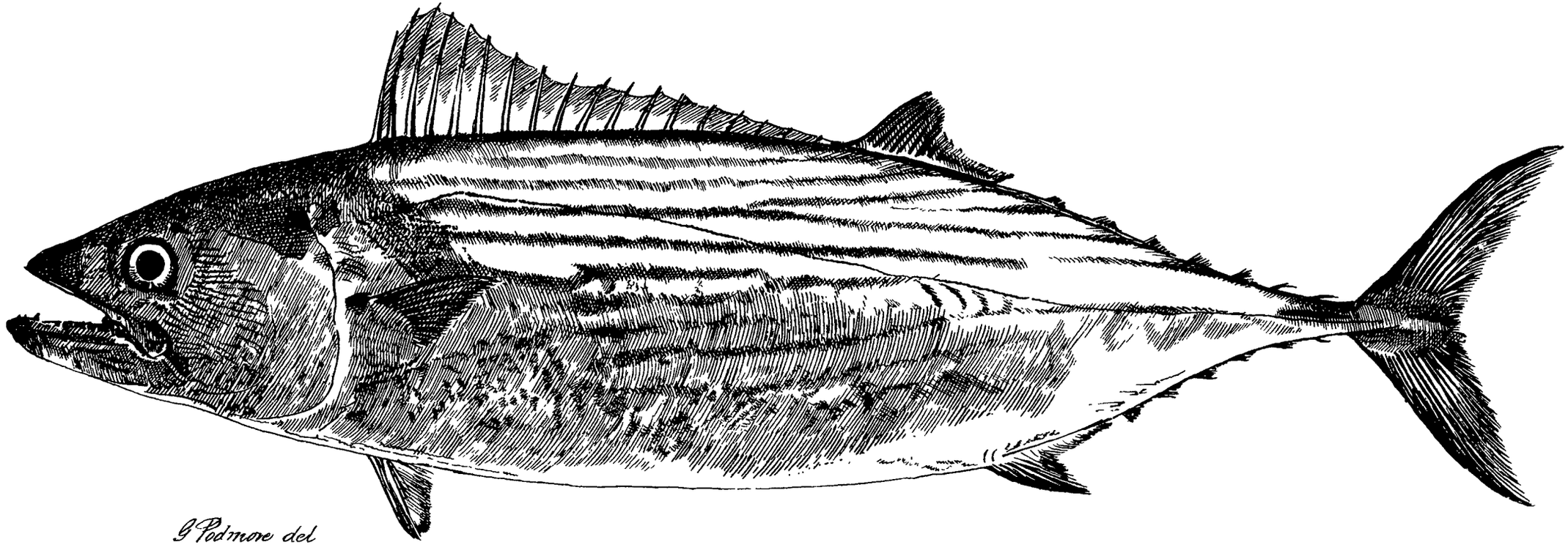


(326-)

MACKEREL.

(*Scomber pneumatophorus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



G Podmore del

(326-)

HORSE MACKEREL.

(*Pelamys chilensis.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

HORSE MACKEREL.

Family, **Scombridæ**; *genus*, **Pelamys.**

Colours.—Back green with violet reflections, below silvery; a broad dusky band covering the upper surface of the head and extending along the dorsal profile to the base of the rayed dorsal, growing gradually narrower posteriorly; five to eleven dark longitudinal wavy bands on the sides, the lower ones faint or wanting; dorsal fins dusky, the upper third of the anterior spines darkest, of the rays yellowish, as also are the tips of the finlets; anal and ventral fins whitish; pectorals and caudal blackish; irides silvery.

The horse mackerel, as this fish is invariably called here both by fishermen and dealers, appears on our shores in considerable shoals at irregular intervals, and even ascends shallow bays and estuaries to some distance in pursuit of fry. Specimens obtained from Port Jackson and Botany during the month of March contained ova in an early stage of development.

Like all its allies, these fishes are exceedingly active and voracious, nothing which it can swallow coming amiss to its appetite, while as food it is only very moderate when quite fresh.

The horse mackerel is the scad of Europe; it is dry in its character, and requires much garnishing to make it palatable. Like all deep-sea fishes, such as the bonito and albicore, it prefers a live bait, and is readily caught by an artificial one over the ship's counter. The pace these fishes swim at is astonishing. E. S. Hill says that on one occasion coming coastwise in a steamer, and when off Port Macquarie, we caught several by towing a line over the stern, the hook covered with a piece of white rag in the shape of a small squid; then we were going about ten knots, and the mackerel appeared to be playing near the stern in the wake—every now and then they would start off as if the ship was at anchor. We were going too fast for the generality of fishes, that is to catch them in the way described. There are many of the deep-sea fishes caught in this way. The usual method is, when the vessel is going through the water at three to five knots, to put out a line with an artificial bait, and to have a small bridle of twine fast as well as the line on board; the bridle being the first to have a strain is easily snapped when any additional weight is put on; consequently, that being an indicator, soon tells when anything is fast. By this means a line can be set, and which requires little attention except when a fish is on, and does not bore the parties by looking after it.

THE FLATHEAD.

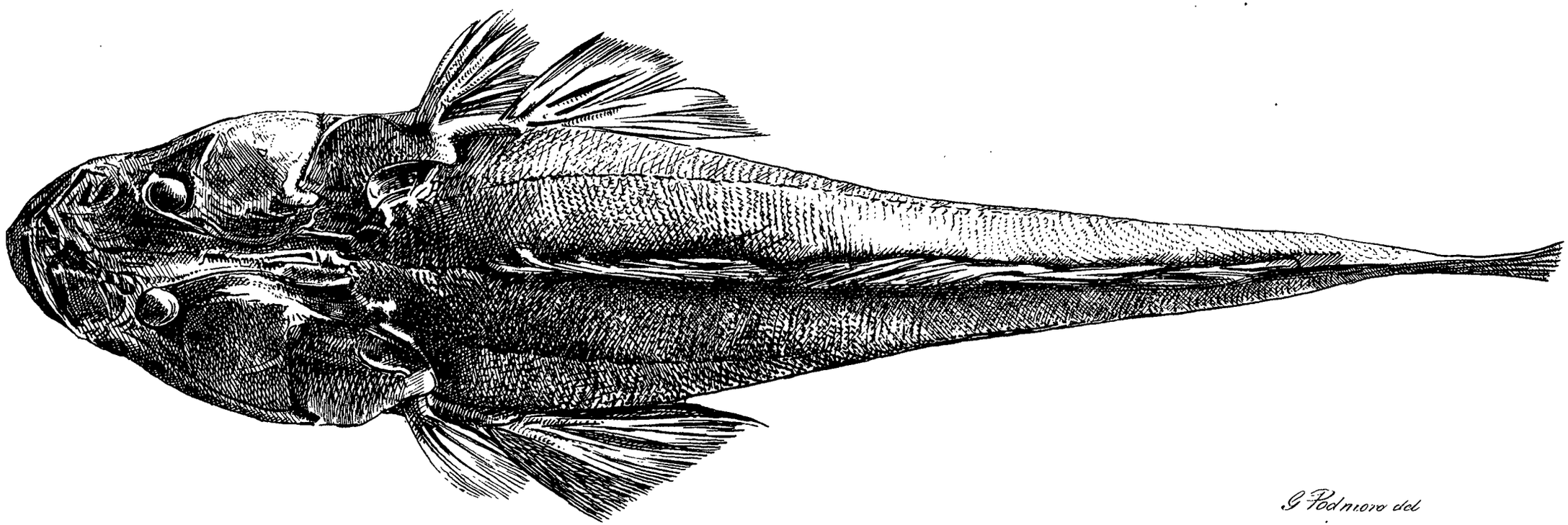
Family, **Cottidæ**; *genus*, **Platycephalus.**

Colours.—Rich brown above and on the upper half of the sides, the head lighter with numerous reddish-brown spots sides of head and subopercular flap spotted with pale olive green; lower half of sides pale greenish-yellow with indistinct blotches of olive green; white below; first dorsal with a series of small chestnut spots in front of each spine; second with the spots crossing the rays, forming interrupted bands; upper third of caudal similar to the dorsals, but with much larger spots; the remainder dark bluish-gray, unspotted, and narrowly edged below with white; pectorals grayish, thickly freckled with reddish-brown; ventrals similar, but with much larger spots, and with the spine and a narrow margin white; anal white.

This fish is common to the whole length of our coast. Fishermen recognise two principal species—the drab or sand flathead of the sea, and the brown or black mud flathead of the rivers; but they are said to be so similar in their habits and construction that their few distinctive characteristics need not necessarily be regarded here. The flathead may be found in bays and estuaries as well as at long distances up rivers; it also frequents sandy bottoms at sea in deep water; numbers are captured by the seine, and though really a sluggish fish on the hook, is much sought after by amateurs. It can be caught with prawns or fish bait quite readily on the sandy bottoms of inlets and estuaries during the summer months, but in colder weather it makes its way to deep water, where also it may be captured at considerable depths. The flesh is white, firm, and flaky, and of excellent quality.

A favourite mode employed by amateurs of capturing this fish is by drifting in calm weather over stretches of sandy bottoms where they abound; by this means it is possible on occasions to secure large numbers in a short space of time. The flathead is a ground fish, and has the habit of burying itself all but its eyes in the sand. Great sport can be had on a sunny day by watching for the fish from a drifting boat, and transfixing the animal with a light spear.

The flathead is armed on each gill cover with a double thorn, with which it can inflict a most painful wound, so that great care has to be observed in unhooking the fish. A wise precaution is to stun it by a sharp blow on the nose before attempting to extricate it from the hook. The flathead is in roe in January and February, and sheds it in February or March. Its food consists of squid, small fishes, worms, and crustaceans.



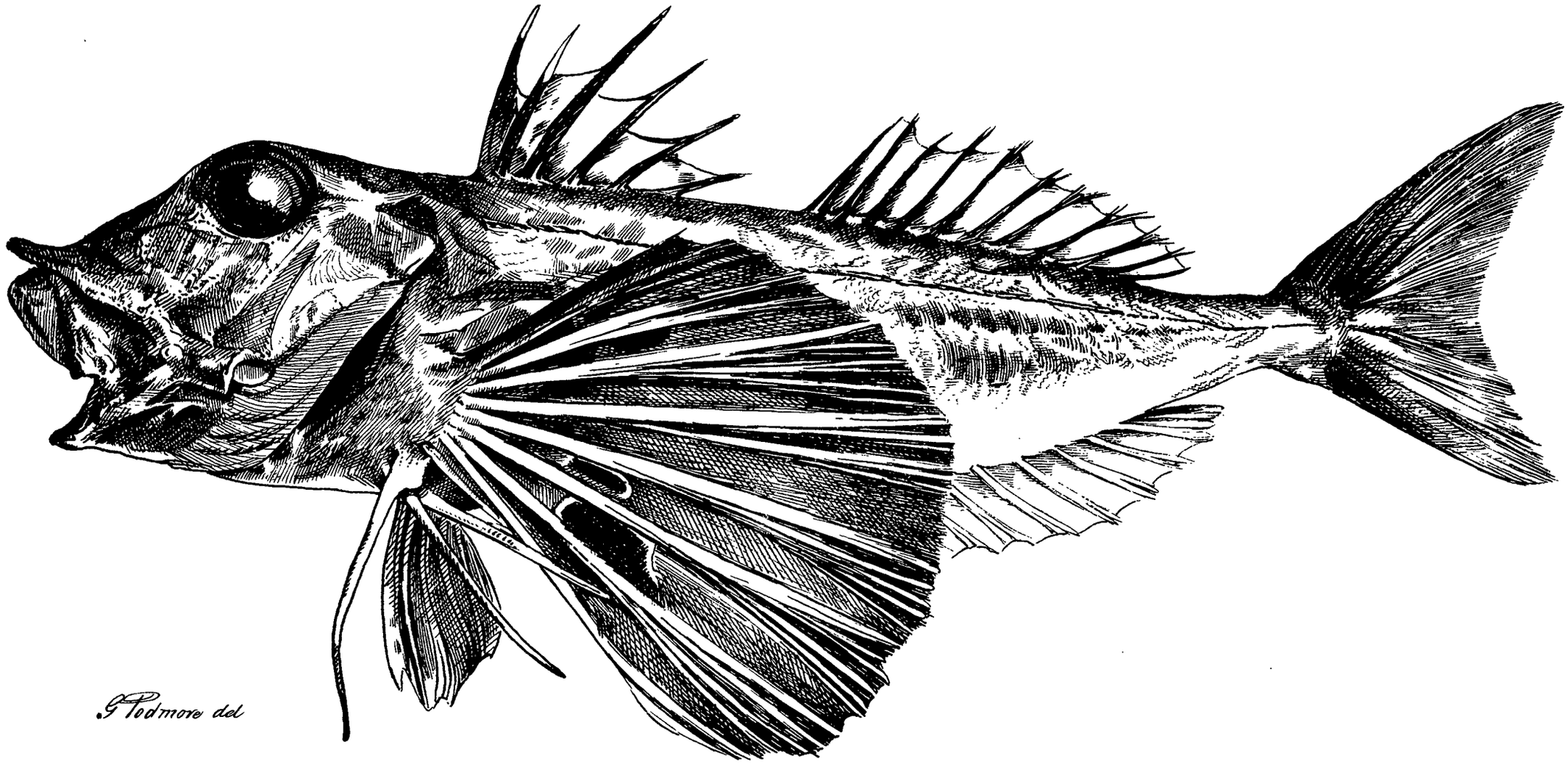
G. Podmore del.

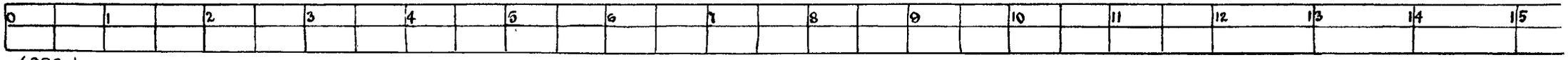
(326-)

FLATHEAD.

(*Platycephalus fuscus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.





(326-)

RED GURNARD.

(*Trigla kumu.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

THE RED GURNARD.

Family, **Cottidæ**; *Genus*, **Trigla.**

Colours.—Upper surfaces and sides of the head red, with or without an admixture of brown; lower surfaces white washed with pink; dorsal and caudal fins reddish with a strong tinge of yellow, the latter colour frequently predominating on the posterior half of the caudal; anal and ventral fins white or pinkish; pectorals externally pale red, the membrane frequently tinged with violet, and with a broad pale blue marginal band posteriorly; the inner or posterior side olive green or purple, with more or less numerous light blue spots on its outer half, and with a large black blotch on the lower third of the fin, the spots on which are milk white.

The red or, as it is sometimes called, the flying gurnard may be recognised by its peculiar squarish head and long broad pectoral fin-like wings. A peculiarity of this fish is the possession of three finger-like pectoral appendages which serve as organs of locomotion and touch. As will be apparent from the colours described above, it presents a most beautifully ornamented appearance. From the size of its pectoral fins it might be supposed that this fish is capable of supporting its body in the air like the flying fish; it is not known, however, to exert this power, or even to possess it. The peculiar structure of its head enables it to move without injury amongst stones and rocks, and drag from thence the crustaceans, molluscs, and small fish which constitute its food.

The spawning season of this fish on our coast is not accurately known, but from observations made by Ogilby the period is supposed to be November and December. The fry are never seen in the harbour, nor have they been discovered amongst *débris* drawn up by the seine. Though as a table fish it is excellent, it is seldom seen in the market, for, being an inhabitant of deep water, fishermen do not possess appliances for its wholesale capture, so that the only specimens to be obtained are stray individuals taken by persons engaged in schnapper fishing. When taken from the water this fish emits a grunting noise which has earned for it the soubriquet of "Growler." This noise is said to be caused by the escape of gas from the air bladder through the pneumatic tube. The species delineated grows to a length of 20 inches.

THE SOLE.

Family, **Pleuronectidæ**; *genus*, **Solea.**

COLOURS.

Narrow-banded Sole.

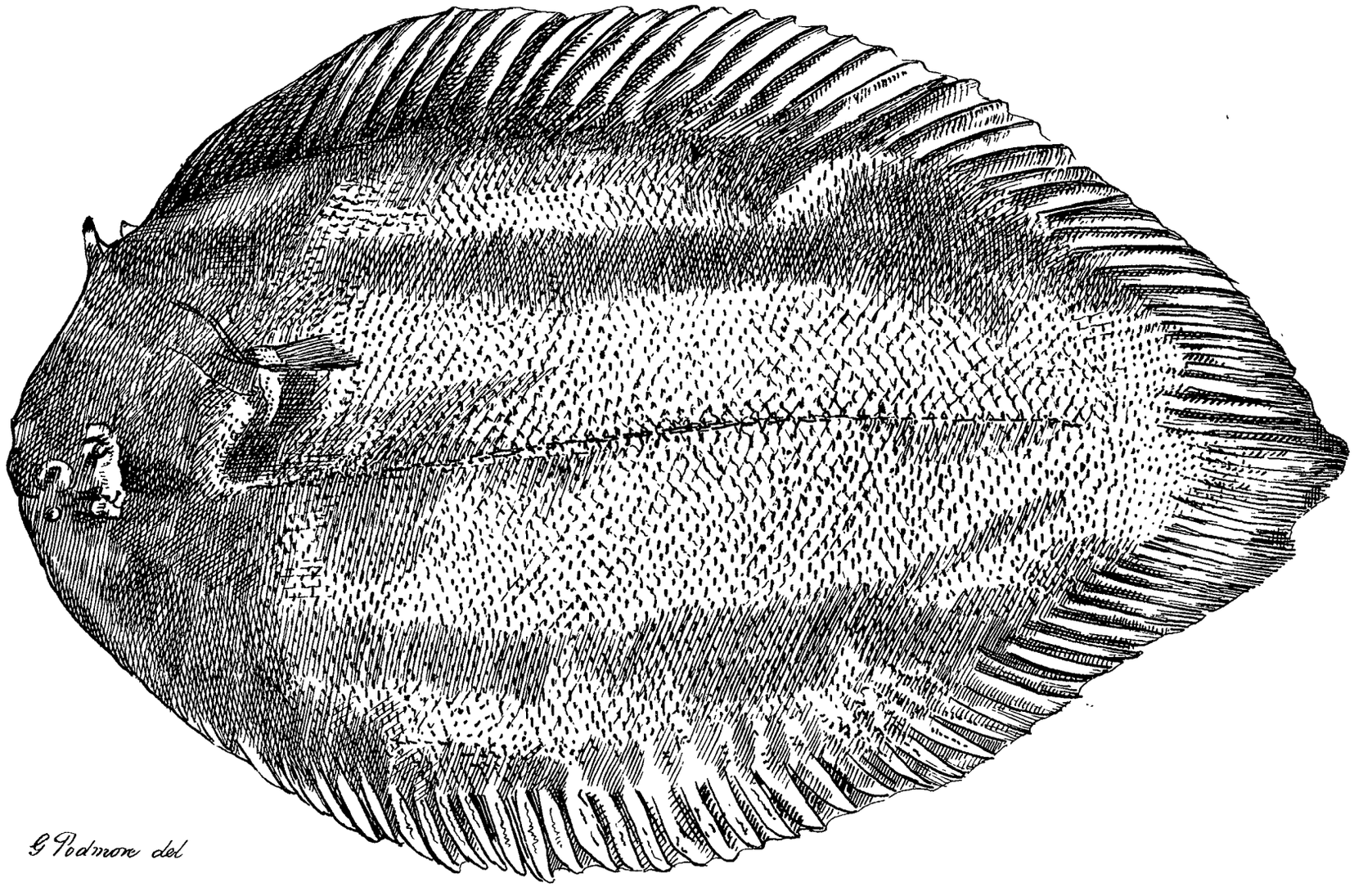
Right side rich purplish-brown, with numerous narrow lighter bands, which frequently branch and connect with the neighbouring bands, and are extended on to the margins of the fins; left side white.

Black Sole.

Right side rich dark olive brown with some large round darker blotches, and occasionally with small round yellowish or cream white spots; left side white, not unfrequently clouded with yellowish-brown or slate-blue in irregular patches; vertical fins narrowly margined with white or pale-straw colour; posterior half of the dextral pectoral black.

There are two principal species of this genus, the narrow-banded sole and the black sole—the colours of each are given above.

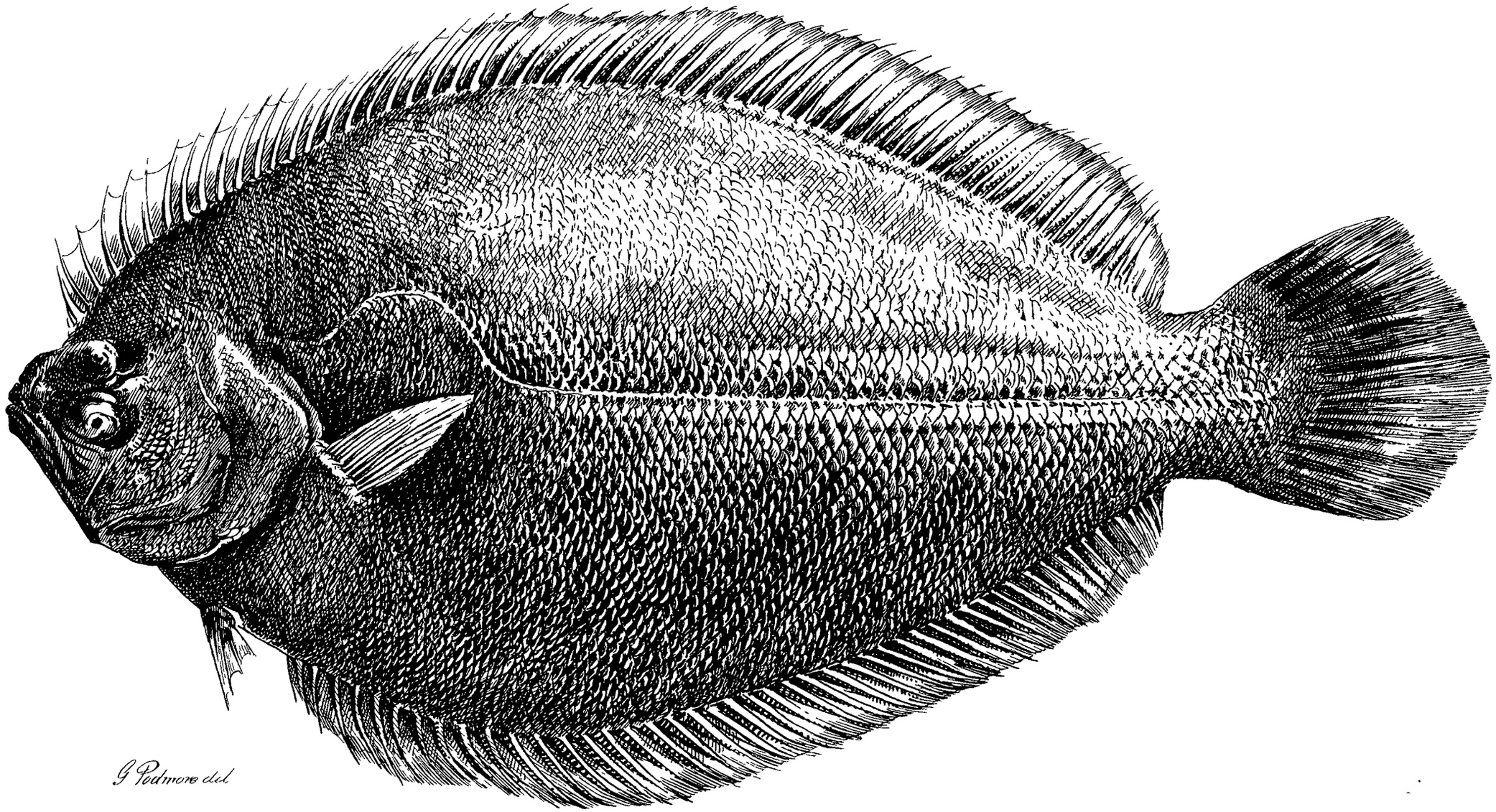
There is a considerable similarity in the general appearance of the sole and the flounder, so much so that the latter is frequently palmed off to the purchaser as the former. The sole may be distinguished by the extreme shortness of its tail, and the continuity of the rays around the fish, while in the flounder there is a pronounced tail, and a space between the dorsal and anal rays and the caudal fin. The sole will not take a bait—he feeds on molluscs, crustaceans, and worms when lying perfectly flat upon the ground, dark side up, and almost completely covered with sand and debris, leaving his mouth, which is formed very like the letter S, and without perceptible teeth, free to take that food. Having, like the flounder, its habitat so close to the ground it is difficult to secure this fish with the net, so that the best known method of capturing it is by the spear during calm mornings while the water is clear and free from ripple. The spear should have but one fine steel prong to probe the sand on the feeding patches. When the fish is speared it makes but little resistance, and is easily brought to the surface. The spear is used from a light boat either set to drift over the feeding patches or to be gently propelled by the spear. The fish when only partially covered is easily seen and captured. In the summer months they usually feed along the edge of a channel, in the winter they frequent deeper water generally just inside ledges or banks of sand formed by the tide, they are then more difficult to find.

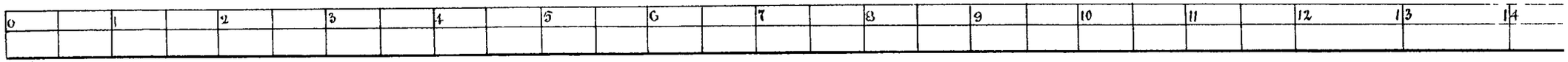


0 1 2 3 4 5 6 7 8 9 10

SOLE.

(*Synaptura nigra.*)





(326-)

FLOUNDER.

(*Pseudorhombus arsius.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY NEW SOUTH WALES

THE FLOUNDER.

Family, **Pleuronectidæ**; *genus*, **Pseudorhombus.**

COLOURS.

Large-toothed Flounder.

Yellowish-brown with or without darker blotches, which are most constant, and frequently edged with white, on the lateral line.

Small-toothed Flounder.

Rich brown above, the edges of the scales with a rusty tinge, with numerous small, round, milk-white spots, which are sometimes confluent, and with five dark spots on the lateral line, the second and fourth of which are the most conspicuous, each spot being closely dotted with yellow; the anterior portion of the dorsal faintly marbled, posterior with dark blotches, which are more pronounced on the outer two-thirds of the fin; anal similar, but more richly coloured; caudal clouded with light brown; lower surfaces white.

Ogilby describes two species of this fish, to which he gives respectively the popular names of the larged-toothed and the small-toothed flounder. The former may in a general way be distinguished from the latter by its colour, which, as above-described, is of a yellowish-brown with an edging of white on the lateral line, while the latter is of a rich brown, bearing numerous milk-white spots, with dark spots two of which are dotted with yellow, on the lateral line.

The flounder is taken by line and net, but the closeness with which it adheres to the ground renders its capture by the seine somewhat uncertain. The bait used in line capture is either fish, prawns, or crabs. The flounder is usually found on sandy bottoms, both inside and outside the bays and inlets of the coast, but they are occasionally taken by nets in the muddy bottoms of rivers. Not very much information is available as to its mode and times of spawning. It is, however, supposed to breed in the summer months and in the open sea, the young fry betaking itself to the quieter waters of the inlets. Of its habits at sea scarcely anything is known. Doubtless, when systematic trawling experiments are entered upon, important discoveries will be made respecting it, and will result in securing an abundant supply for consumption of a fish at present somewhat rare, and held in high repute for its delicacy of flavour and excellence. The flounder of either of the above species grows to a length of 15 or 16 inches.

Some particulars of the flat fish family collected by Gunther will doubtless be read with interest. He says: The fishes of this family, called "Flat-fishes" from their strongly compressed, high, and flat body, in consequence of the absence of an air-bladder, and of the structure of their paired fins, are unable to maintain their body in a vertical position, resting and moving on one side of the body only. The side turned towards the bottom, sometimes the left, sometimes the right, is colourless, and termed the "blind" side; that turned upwards and towards the light is variously, and in some tropical species even vividly coloured. Both eyes are on the coloured side, on which side also the muscles are more strongly developed. The dorsal and anal fins are exceedingly long, without division. All the flat fishes undergo remarkable changes with age, which, however, are very imperfectly known and not yet fully understood, from the difficulty of referring larval forms to their respective parents. The larvæ are, singularly enough, much more frequently met in the open ocean than near the coast. They are transparent, perfectly symmetrical, with an eye on each side of the head, and swim in a vertical position like other fishes. The manner in which one eye is transferred from the blind to the coloured side is subject to discussion. While some naturalists believe that the eye turning round its axis pushes its way through the yielding bones from the blind to the upper side, others hold that as soon as the body of the fish commences to rest on one side only, the eye of that side, in its tendency to turn towards the light, carries the surrounding parts of the head with it; in fact, the whole of the fore part of the head is twisted towards the coloured side, which is a process of but little difficulty as long as the framework of the head is still cartilaginous.

Flat-fishes when adult live always on the bottom, and swim with an undulating motion of their body. Sometimes they rise to the surface. They prefer sandy bottoms, and do not descend to any considerable depth. They occur in all seas, except in the highest latitudes and on rocky, precipitous coasts, becoming most numerous towards the equator. Those of the largest size occur in the temperate zone. Some enter fresh water freely, and others have become entirely acclimatised in ponds and rivers. All are carnivorous.

THE EEL.

Family, **Murænidæ**; *genus*, **Anguilla.**

Colours.—Above dark olive, more or less spotted and streaked with black; below white; fins rather darker; irides orange; teeth purple.

The breeding habits of eels is a subject as yet but imperfectly understood, but it is known that they are obliged to descend from the fresh water to brackish or pure sea water in order to develop their spawn; that the young migrate to the upper waters of rivers and creeks in countless thousands, overcoming in their course obstacles seemingly insurmountable; that they increase in such places in size, but not in numbers; that the adults, after spawning, either become permanently resident in the tidal waters to which they have descended, or return to their freshwater haunts irregularly and individually; and that they are unisexual and not, as was long supposed, hermaphrodite.

This, the common eel of the Sydney markets, occurs in greater or less numbers at all seasons of the year, and should be present much more abundantly, but there is no regular fishery for it, such as are offered for sale being the produce of the seine and prawn net, taken accidentally when seeking other prey.

The eel may also be easily taken with hook and line, for, being exceedingly voracious, it will greedily snatch at almost any bait, provided always it be fresh, or, better still, living; tainted meat it will avoid, unless pressed by hunger. It takes the bait best during the night-time, and a live frog, worm, or singing locust, a piece of fresh fish, meat, or the entrails of fowls or fishes, will all be found excellent baits. Eels may also be taken in wicker or wire fish-creels, the former for preference, baited with fish or any fresh offal, and by spearing.

As a food fish the freshwater eel has few rivals, being rich, wholesome, nutritious, and of excellent flavour.

The eel is very tenacious of life, and, given favourable circumstances, can remain for a long time out of its natural element without inconvenience; while the fact is well attested that should it for any reason take a dislike to its surroundings, it will leave any such localities as isolated ponds, and migrate overland to the nearest pure water. When on migration it is not easily turned from its path, crossing even ploughed fields in its efforts to reach more suitable quarters.

The eel is very susceptible of cold, and in localities subject to a low winter temperature is accustomed to bury itself deeply in the mud during the continuance of the cold season; nevertheless it can bear great cold without life becoming extinct.

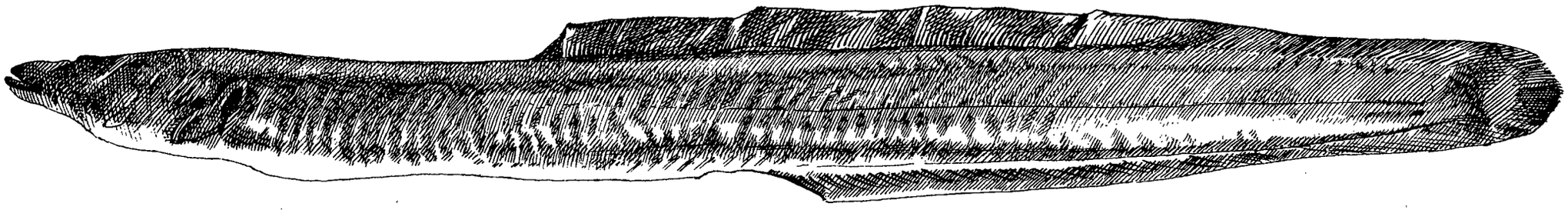
The long-finned eel is common in all the rivers and estuaries which drain the eastern watershed of New South Wales, but whether this or any other species of eel inhabits the rivers and lagunes of the vast territory lying to the westward of the mountains is still an open question.

THE GREEN EEL.

Colours.—Ground colour, yellowish-brown, almost hidden by purplish-brown spots. When first taken from the water bright green.

The green eel is very common along the New South Wales coast, frequenting the crannies and crevices among the rocks, and the larger rock pools on the shore reefs, but it is not often brought to market, its habits and the peculiar localities which it frequents not leading the professional fisherman to seek for it. It is an excellent food fish, its flesh being white, delicate, and of good flavour. It can be easily taken in the rock pools with a prawn or fish bait, by the use of a stout rod, and short line, but the moment it is hooked it must be jerked out of the water, for if once allowed to retreat into its crevice great difficulty is experienced in inducing it to come out again. It is very savage when irritated, returning repeatedly to the attack, swimming slowly about, winding among the seaweeds, and raising its snout to the surface. The green eel grows to a length of 33 inches.

At Lord Howe Island this is the most common eel on the shore, and is easily obtained under stones between tidemarks, up to a length of 2 feet.

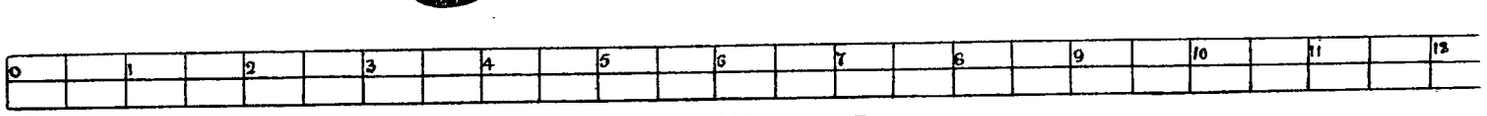


J. Podmore del

EEL.

(*Anguilla australis.*)

G Podmore del

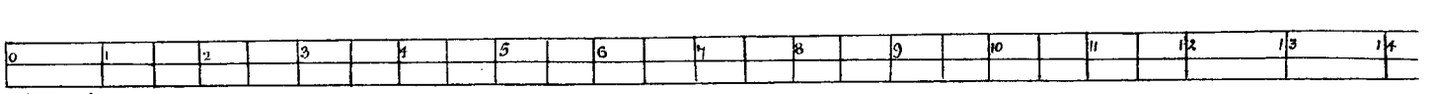


(326-)

BLUE SWIMMING CRAB.

(*Neptunus pelagicus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.



(326-)

MANGROVE CRAB.

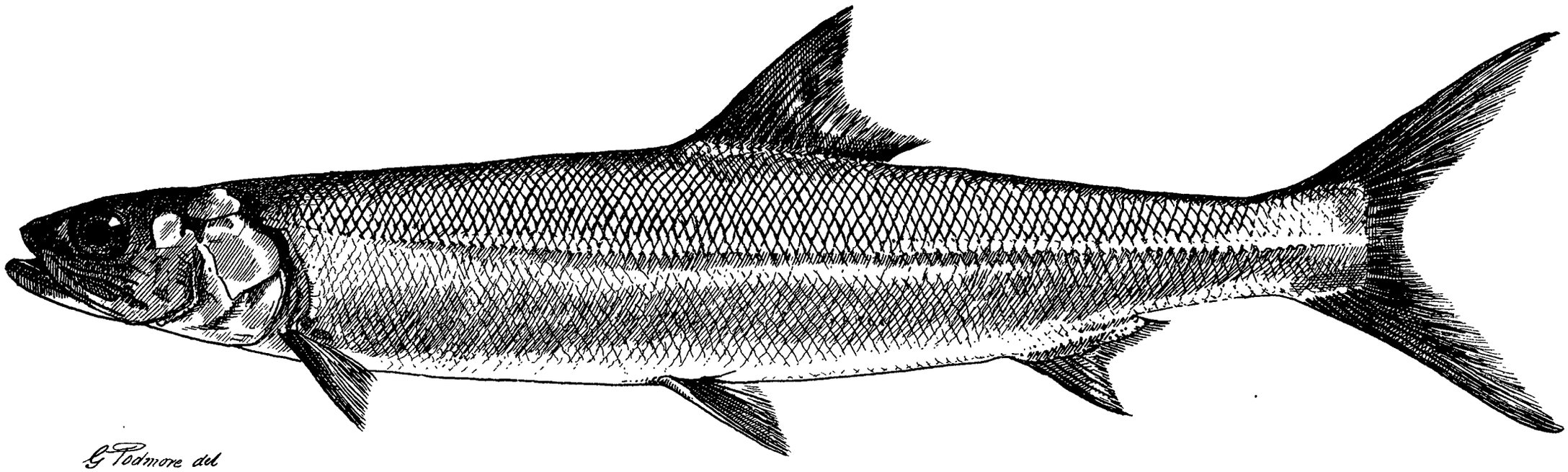
(Scylla serrata.)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

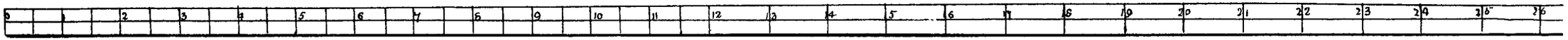
CRABS.

Scylla serrata *and* Neptunus pelagicus.

But little observation seems to have been made, or at least recorded, respecting the habits and breeding times of these crustacea, of which several species are to be found on our coast. The two genera named above have a very wide range, and are often to be seen in the market. They are generally taken in the seine net, and being of excellent quality command a ready sale. *Neptunus pelagicus*, the swimming or sea-crab, is present on occasions throughout the year; its average weight is one and one-half pounds, but it is said to attain a weight of three pounds. These crabs are much in request for bait as well as food.



G Podmore del



(326-)

GIANT HERRING.

(*Elops saurus.*)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,
SYDNEY, NEW SOUTH WALES.

INDEX TO SUPPLEMENTARY EVIDENCE.

Sydney: Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

ROYAL COMMISSION ON FISHERIES.

(EXPENDITURE OF.)

Printed under No. 1 *Report from Printing Committee*, 21 *May*, 1896.

[*Laid upon the Table of the House in answer to Question No.* 25 *of the* 19*th May*, 1896.]

Question.

25. ROYAL COMMISSION ON FISHERIES:—MR. PARKES *asked* THE COLONIAL SECRETARY,—What is the total cost of the late Royal Commission upon Fisheries, giving all detail expenditure?

Answer.

Salary of Secretary	£470	11	1
Clerical assistance, typewriting, &c.	328	2	10
Rent of offices	120	6	8
Petty and incidental expenses	38	1	10
Drawings, maps, &c....	49	0	6
Printing, &c.	480	5	5
Expenses of Commission visiting various parts of the Colony and also Victoria and Tasmania (railway fares, boat and steamer hire, &c., included)	403	15	6
Total	£1,890	3	10

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

(ANNUAL REPORT OF RAILWAY COMMISSIONERS, YEAR ENDING 30TH JUNE, 1896.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35.

Printed under No. 13 *Report from Printing Committee,* 18 *August,* 1896.

Offices of the Railway Commissioners of New South Wales,
Sydney, 6th August, 1896.

TO THE HONORABLE THE MINISTER OF RAILWAYS,—

SIR,

In accordance with the provisions of the 45th clause of the Railways Act of 1888, 51 Vic. No. 35, we have the honor to present, for the information of Parliament, our Annual Report upon the working of the Railways and Tramways for the year ending June 30th, 1896.

GENERAL REMARKS.

The financial result for the year is as under:—

Total traffic, **Railways** and **Tramways** ...	... £3,109,598
Total expenditure, **Railways** and **Tramways**	... 1,788,171
Balance after paying working expenses	... £1,321,427

making an accumulated increase of £3,332,413 paid into the Treasury during the past eight years to meet the interest on capital.

From this sum must be deducted £375,000, five instalments of £75,000 each, towards paying off the £1,000,000 vote under Act 53 Vic. No. 24, for reconstruction and improvement of rolling-stock and permanent-way, which fell due up to the 31st December last; after deducting this amount the Treasury will still have received £2,957,413 increased net earnings during the past eight years.

The

[625 copies—Approximate cost of Printing (labour and material), £103 13s.]

The following table shows the progress and results of the working of the Railways and Tramways for a period of years.

Year.	Open to 30 June.			TOTAL EARNINGS.			NET EARNINGS AFTER PAYING WORKING EXPENSES.			CAPITAL EXPENDED.		
	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.
	Miles.	Miles	Miles.	£	£	£	£	£	£	£	£	£
1882	1,268	22	1,290	1,701,016	126,202	1,827,218	763,661	23,066	786,727	15,843,616	447,940	16,291,556
1883	1,320	25	1,345	1,934,694	190,699	2,125,393	751,220	11,822	763,042	16,905,014	585,062	17,490,076
1884	1,618	27½	1,645½	2,089,749	219,942	2,309,691	786,010	4,775	790,785	20,080,138	686,402	20,766,540
1885	1,732	27½	1,759½	2,178,172	223,340	2,401,512	717,555	15,345	732,900	21,831,276	751,730	22,583,006
1886	1,889	29	1,918	2,163,803	230,410	2,394,213	668,577	23,957	692,534	24,071,454	857,483	24,928,937
1887	2,036	38½	2,074½	2,212,718	225,348	2,438,066	752,375	12,893	765,268	26,532,122	923,608	27,455,730
1888	2,114	38½	2,152½	2,295,124	236,519	2,531,643	764,573	17,323	781,896	27,722,748	877,244	28,599,992
1889	2,171	38½	2,209½	2,538,477	243,563	2,782,040	903,875	21,728	925,603	29,839,167	909,595	30,748,762
1890	2,182	39½	2,221½	2,633,086	268,962	2,902,048	967,251	44,889	1,012,140	30,555,123	933,614	31,488,737
1891	2,182	42½	2,224½	2,974,421	292,850	3,267,271	1,143,050	53,171	1,196,221	31,768,617	1,004,212	32,772,829
1892	2,185	48	2,233	3,107,296	305,090	3,412,386	1,193,044	56,499	1,249,543	33,312,608	1,099,659	34,412,267
1893	2,351	49	2,400	2,927,056	295,367	3,222,423	1,188,540	61,559	1,250,099	34,657,571	1,118,471	35,776,042
1894	2,501¼	58½	2,559¾	2,813,541	278,194	3,091,735	1,221,699	48,911	1,270,610	35,855,271	1,248,986	37,104,257
1895	2,531¼	61	2,592¼	2,878,204	282,316	3,160,520	1,310,615	51,323	1,361,938	36,611,366	1,428,518	38,039,884
1896	2,531¼	61	2,592¼	2,820,417	289,181	3,109,598	1,268,529	52,898	1,321,427	36,852,194	1,434,896	38,287,090

The year closed by this Report has been one of considerable difficulty—

(1) The general depression throughout the Eastern Colonies not having completely passed away ;

(2) The serious drought which afflicted New South Wales, by which about 13,000,000 of sheep and lambs were lost, causing a heavy decrease in wool and other traffic.

(3) The strike of the coal-miners at Newcastle, which commenced on the 27th April and lasted until the beginning of July, causing serious loss of traffic at that port ;

(4) Floods in the Bourke District, in February, which led to a considerable expenditure for repairs.

RAILWAYS.

During the year closed by this report no new lines have been handed over to us; but during this month the line from Jerilderie to Berrigan is expected to be opened, and the line from Narrabri to Moree is now being used for traffic under the control of the contractors. These two lines bring the total mileage to 2,616 miles. The 85 miles of new line is of the "Pioneer" class, and the cost of construction, including bridges, station accommodation, and charges of all kinds, will be under £2,300 per mile.

The construction of a line from Parkes to Condobolin, a distance of 62½ miles, is proceeding, and it is expected that it will be opened for traffic for a length of 23½ miles in November next.

The construction of lines of railway from Nevertire to Warren, Tamworth to Manilla, Berrigan to Finley, and Condobolin to Broken Hill *via* Menindie, are under consideration.

The cost of the lines open for traffic on the 30th June amounted to £36,852,194. Of this amount, £903,565 has been provided out of the Consolidated Revenue, and debentures of the value of £1,288,646 have been paid off, leaving £34,659,983 as the amount upon which interest has to be paid.

The revenue for the year was £2,820,417, and the working expenses amounted to £1,551,888, or 55·02 per cent. of the gross revenue, leaving a net revenue of £1,268,529, or a return of £3 8s. 10d. per cent. upon the total capital expenditure on the railways open for traffic.

We are unable to give the actual amount of interest payable upon the railway capital, as the Treasury provided the moneys for railway construction, in nearly all cases, out of the loans raised for general purposes; the only way, therefore, to arrive at an estimate of the annual interest cost is to charge the railway capital with interest at the average rate the loans of the Colony bear, and this rate at the present time is 3·738 per cent.

The total capital cost being £36,852,194, interest at 3·738 per cent. calls for a sum of £1,377,535 to meet this liability. The moneys provided out of the Consolidated Revenue, and the amount of debentures paid off, make a total sum of £2,192,211; and as no interest has to be paid on this sum, the total amount upon which interest has to be paid is £34,659,983. This sum, at 3·738 per cent., amounts to £1,295,590, and the net result of the year's transactions, after paying all working expenses, is a sum of £1,268,529, thus leaving the deficiency to be made up by the General Funds of the Colony at £27,061; but if the whole of the cost of the lines open for traffic is considered there is a deficiency of £109,006.

In our recent inspection of the whole of the lines, we were pleased to find a very large amount of additional land being placed under cultivation, and there is every reason for looking forward to a very heavy grain-crop in the coming season.

The

The indications for the coming wool season are that the fleece, generally, will be heavier than last year; but, in consequence of the great loss in sheep and lambs, the aggregate quantity of wool will not much exceed that carried during the year closed by this Report.

During the time of drought, stock was carried from the dry districts to the districts where feed was to be obtained at one-half the ordinary rates.

With regard to the general details of the year's transactions, it may be stated that the revenue shows a decrease of £57,787. The working expenses have been reduced by £15,701.

The coaching traffic shows an increase of £20,069; 1st class traffic having increased by £7,543, 2nd class by £9,212, and miscellaneous traffic by £3,314.

For the increased money earned there were 1,279,630 additional passenger journeys made.

The total revenue derived from the Goods Department shows a decrease of £79,403, the drought and its after effects having very seriously affected the revenue.

The decrease in the wool traffic amounted to 102,622 bales, and £76,641 in money.

The grain and flour traffic fell short by 66,961 tons, and the revenue by £31,742.

Hides, skins, and tallow to Darling Harbour alone fell off to the extent of 15,149 tons, and the revenue by £22,686.

These three items alone, directly attributable to the drought, show an aggregate decrease of £131,069; and as the total decrease in the Railway revenue is only £57,787, it would indicate that the business of the country in other directions is fairly satisfactory.

The live stock traffic was exceedingly heavy during a part of the year, and the revenue from this source increased from £340,173 to £362,791, a net increase of £22,618.

The train miles run were 7,719,618, being an increase of 125,337 miles.

The earnings per train mile are 7s. 3¾d., and the net earning, 3s. 3½d., as compared with 3s. 5½d. last year.

The percentage the working expenses bear to the gross revenue is 55·02.

SAFETY APPLIANCES.

The following return will show the progress made in extending the absolute block system of working, and the interlocking of points and signals:—

RETURN showing number of Miles of Line open for Traffic, number of Miles worked under **Absolute Block System,** also Number and Percentage of Places which have or have not **Points and Signals Interlocked.**

Date to end of—	Number of Miles of Line open for Traffic.				Number of Miles of Line on which the Traffic is worked under the Absolute Block System.			Number and Percentage of Places which have or have not Points and Signals Interlocked.				
								Number of Places.			Percentage.	
	Quadruple.	Double.	Single.	Total.	Quadruple and Double.	Single.	Total.	Interlocked.	Not Interlocked.	Total.	Interlocked.	Not Interlocked.
October, 1888	...	71½	2,042½	2,114	28	...	28	104	318	422	24·64	75·36
July, 1891	...	124	2,058½	2,182½	118¾	207½	326¼	234	262	496	47·17	52·83
July, 1893	8½	149½	2,193	2,351	154½	910½	1,065	294	237	531	55·36	44·64
July, 1896	8½	154½	2,368¼	2,531¼	159½	991	1,150½	376	215	591	63·62	36·38

Authority has been given for the interlocking of a number of additional stations and sidings.

The fitting of the goods stock with the Westinghouse quick-acting freight brake has been continued, the number of vehicles fitted with brakes or pipes during the year being 1,623, making a total of 6,223 goods vehicles now provided with this great security.

We are pleased to state that the year has been entirely free from any passenger train accident, the amount included in the expenses of the year, under the head of compensation, being the final costs of the Redfern Station accident in 1894.

In consequence of the many exorbitant claims made in connection with the Redfern accident, we deemed it our duty to ask the Government to introduce a Bill into Parliament limiting the liability in connection with accidents to a maximum sum of £2,000, and we trust that Parliament will, in its wisdom, see its way to pass the measure.

RATES.

Following up the policy of not attempting to make high interest returns upon the capital invested upon the railways, but to assist in developing the trade of the Colony by giving as low rates as possible consistent with paying the interest cost on the capital invested, various reductions in rates have been made during the year; and on the 13th April a general re-classification of goods took place by which a large number of articles were reduced to lower classes.

In

In order to assist the agricultural industry, further modifications have been made in the rates for produce for long distances. The rates that are now in operation are as under:—

Grain, Flour, Meal, Bran, Pollard, Millet Seed, Beet-root, Chicory-root, Potatoes, &c., on the Up Journey.		Hay, Straw, Chaff, Green Fodder, and Ensilage.		
Per ton in 6-ton Truck Loads.		**Per truck** (not to exceed **6 tons**).		
	s. d.	£ s. d.		Per ton.
100 miles...	8 0	1 8 1	or	4/8
150 „	9 8	1 18 10	„	6/5
200 „	11 4	2 11 0	„	8/6
250 „	11 8	2 13 6	„	8/11
300 „	12 0	2 18 6	„	9/9
350 „	12 4	3 3 0	„	10/6
400 „	12 8	3 7 0	„	11/2
450 „	13 0	3 11 0	„	11/10
500 „	13 4	3 15 0	„	12/6

The rates for agricultural implements, when packed in cases and forwarded in 5-ton truck loads, have been reduced by 50 per cent. A reduction of 20 per cent. has also been made on small consignments.

To assist the mining industry, the rates for explosives have been materially reduced, and the rates for mining machinery, such as gold-crushing plant, diamond drills, &c., have been reduced by more than 50 per cent.

The system of truck loads for general merchandise has been very largely availed of during the past year; by this means the rates have been considerably reduced to storekeepers and others sending their traffic in considerable quantities.

It will be seen from the following return that 81·40 per cent. of the whole of the tonnage carried during the year ending December last paid a rate per ton per mile varying from ·42 to ·84 of one penny. Looking at the small amount of traffic on so many of our lines, and the exceedingly heavy grades on all the trunk lines, this result is, we consider, a fairly satisfactory one.

Return of Ton Mileage for Year ending 31st December, 1895.

Description of Traffic.	Total Tons carried.	Total Miles carried.	Average Miles per Ton.	Earnings, exclusive of Terminal Charges.	Earnings per ton per Mile.	Percentage of each class to Total Tonnage.	
	tons	miles	miles	£	D.	per cent.	
Coal and Shale... ...	2,475,404	42,140,949	17·02	107,875	·61	60·95	
Firewood	190,507	4,952,802	25·99	17,284	·84	4·69	
Grain, Flour, &c. ...	267,593	42,434,688	158·58	102,385	·58	6·59	81·40
Hay, Straw, and Chaff	88,581	15,142,432	170·94	26,667	·42	2·18	
* Miscellaneous and A class	284,006	21,092,137	74·26	74,184	·84	6·99	
Wool	104,568	29,075,310	278·05	288,773	2·38	2·58	
Live Stock	179,823	48,250,585	268·32	360,794	1·79	4·43	18·60
All other goods ...	470,649	56,581,422	120·22	580,545	2·46	11·59	
Total	4,061,131	259,670,325	63·94	1,558,507	Average 1·44	100·00	

* Miscellaneous traffic consists of timber, lime, manures, fruit, vegetables, hides, tobacco leaf, bricks, gravel, drain-pipes, and traffic of a similar nature.

The

The following table will show the extent to which the rates have been reduced since 1879 :—

RETURN showing Mileage per Ton and Earnings per Ton per Mile of Goods Traffic carried during the years ending 31st December, 1879, 1883, 1891, 1894, and 1895.

	COAL AND SHALE					FIREWOOD.				
	1879.	1883.	1891.	1894.	1895.	1879.	1883.	1891.	1894.	1895.
Tons carried	1,039,099	1,596,408	2,673,378	2,440,389	2,475,404	112,171	160,662	176,790	188,416	190,507
Miles carried	14,212,532	25,363,800	46,882,655	35,154,389	42,140,949	3,009,030	4,349,344	4,734,019	5,155,475	4,952,802
Average miles per ton	13·68	15·88	17·53	14·41	17·02	26·82	27·07	26·77	27·36	25·99
Gross Earnings £	48,394	85,820	148,299	105,228	107,875	12,977	18,601	21,709	18,185	17,284
Earnings per ton per mile	d. 0·82	d. 0·81	d. 0·76	d. 0·72	d. 0·61	d. 1·04	d. 1·03	d. 1·10	d. 0·85	d. 0·84

	GRAIN AND FLOUR.					HAY, STRAW, AND CHAFF.				
	1879.	1883.	1891.	1894.	1895.	1879.	1883.	1891.	1894.	1895.
Tons carried	36,249	65,736	198,491	241,669	267,593	22,467	35,119	64,967	83,819	88,581
Miles carried	3,611,407	7,756,369	22,130,334	36,250,854	42,434,688	743,679	2,712,396	10,024,149	13,691,695	15,142,432
Average miles per ton	99·63	117·99	111·49	150·00	158·58	33·10	77·23	154·29	163·35	170·94
Gross Earnings £	15,526	26,493	61,521	92,284	102,385	4,579	11,739	19,797	24,302	26,667
Earnings per ton per mile	d. 1·03	d. 0·82	d. 0·66	d. 0·61	d. 0·58	d. 1·48	d. 1·04	d. 0·46	d. 0·43	d. 0·42

	WOOL.					LIVE STOCK.				
	1879.	1883.	1891.	1894.	1895.	1879.	1883.	1891.	1894.	1895.
Tons carried	31,773	63,887	111,797	124,102	104,568	27,805	68,059	128,211	153,082	179,823
Miles carried	5,283,838	15,184,040	30,282,222	34,882,444	29,075,310	3,726,176	13,224,154	34,650,831	37,481,715	48,250,585
Average miles per ton	166·30	237·67	270·86	281·08	278·05	134·01	194·30	270·26	244·84	268·32
Gross Earnings £	53,932	140,791	314,151	354,450	288,773	44,336	151,557	267,661	302,419	360,794
Earnings per ton per mile	d. 2·45	d. 2·23	d. 2·49	d. 2·44	d. 2·38	d. 2·86	d. 2·75	d. 1·85	d. 1·94	d. 1·79

	General Merchandise, and Traffic not included in other groups.				
	1879.	1883.	1891.	1894.	1895.
Tons carried	361,797	682,067	1,008,599	679,618	754,655
Miles carried	29,706,330	67,991,304	92,087,454	74,473,281	77,673,559
Average miles per ton	82·11	99·68	91·30	109·58	102·93
Gross Earnings £	366,808	693,740	806,382	668,364	654,729
Earnings per ton per mile	d. 2·96	d. 2·45	d. 2·10	d. 2·16	d. 2·02

NOTE.—The traffic carried on departmental account has been deducted from the figures throughout, so as to give a fair comparison.

OPENING OF NEW LINES AND THEIR EFFECT UPON THE TRAFFIC.

THE following statement shows the earnings and expenses in connection with a number of outlying lines in the Colony for the year ending the 31st December, 1895.

Line.	Length.	Capital Cost.	Interest on Capital.	Working Expenses.		Total Earnings.		Loss after providing for Working Expenses and Interest.	
				Year ending December, 1895.	Year ending December, 1894.	Year ending December, 1895.	Year ending December, 1894.	Year ending December, 1895.	Year ending December, 1894.
	Mls. ch.	£	£	£	£	£	£	£	£
Sydney to Kiama	71 52½	2,182,602	76,391	99,474	100,064	133,661	135,283	42,204	41,091
Kiama to Nowra	22 43½	380,194	13,307	5,266	5,041	5,939	5,239	12,634	12,968
Narrandera to Jerilderie ...	64 54¾	424,232	16,969	8,258	6,739	14,526	9,401	10,701	14,305
Wallerawang to Mudgee ...	85 6	1,042,817	41,563	20,385	20,975	32,244	34,024	29,704	28,514
Cootamundra to Gundagai..	33 45½	253,805	8,883	5,572	5,030	8,827	7,386	5,628	6,474
Cootamundra to Temora ...	38 69	191,807	7,672	5,102	4,465	9,637	10,001	3,137	1,943
Goulburn to Cooma ...	130 40	1,462,111	51,174	22,915	22,435	30,636	30,515	43,453	43,096
Orange to Molong... ...	22 60	287,421	10,060	5,808	6,820	11,136	13,110	4,732	3,750
Molong to Forbes	72 69	427,118	14,949	12,407	11,858	26,207	23,516	1,149	2,228
Murrumburrah to Blayney..	110 63	1,142,347	39,982	31,475	28,741	30,602	31,123	40,855	37,586
Blacktown to Richmond ...	16 12	196,168	8,698	8,953	7,930	11,560	11,512	6,091	5,116
Werris Creek to Tamworth	27 40	296,905	11,876	12,398	15,055	19,781	22,167	4,493	4,764
Tamworth to Armidale ...	76 76	1,214,546	48,582	22,261	21,493	35,936	38,289	34,907	31,786
Armidale to Jennings ...	132 42¾	1,539,946	60,955	33,901	33,310	30,173	30,418	64,683	63,847
Hornsby to Milson's Point	13 27½	594,289	21,403	12,970	11,510	14,189	10,712	20,184	20,183
Culcairn to Corowa ...	47 39	232,368	8,226	3,608	3,826	3,909	3,791	7,925	8,023
Nyngan to Cobar	81 27¼	323,932	11,543	7,255	5,410	16,614	12,792	2,184	3,588
	1,048 47¾	12,192,608	452,233	318,008	310,702	435,577	429,279	334,664	329,262
New Lines.									
Lismore to Murwillumbah*	63 57	916,034	32,172	5,765	2,630	5,919	1,975	32,018	11,695
Sydenham to Belmore† ...	5 3½	198,082	6,642	4,139	.....	3,263	.....	7,518	.....
	1,117 28¼	13,306,724	491,047	327,912	313,332	444,759	431,254	374,200	340,957.

* First section, Lismore to Mullumbimby, opened 15th May, 1894; second section, Mullumbimby to Murwillumbah, opened 24th December, 1894. † Opened 1st February, 1895.

The foregoing returns show that with one or two exceptions there has been little expansion of traffic upon the unprofitable lines, the principal exception is in the case of the line from Junee to Hay, which has been so long a burden upon the general revenue; this section during 1895 earned sufficient to pay all its working expenses and interest upon capital. The Riverina district served by this line enjoyed a much better rainfall than the other parts of the Colony, and the live stock traffic was exceedingly heavy therefrom, the number of sheep consigned from the stations between

between Narrandera and Hay for the year amounting to 908,000 as against 180,500 in the previous year, whilst from the Jerilderie branch 351,750 were consigned as against 48,550 in the previous year.

The earnings on the Cobar and Molong to Parkes and Forbes lines continue to improve. The line to Cobar has led to the reopening of the copper works there, and to the development of the gold-mining industry in the district, and it is expected that the branch will soon be quite self-supporting. The extension of the Parkes line to Condobolin will also lead to improved traffic, and, we hope, for an early withdrawal of the Molong-Parkes and Forbes line from the list of unprofitable lines. The gold-mining in the Parkes and Forbes district has received a great stimulus by the opening of the railway.

Accommodation for the Traffic and Condition of Lines and Rolling-stock.

In our recent inspections of the lines we have authorised various works to meet the altered requirements of the traffic, particularly in view of the expected largely increased grain traffic of the coming season. Additional carriage rolling-stock will also be provided to meet the requirements of new lines and the extra pressure now experienced at holiday times.

The permanent-way expenses show a good decrease; this has been brought about by the excellent condition of the lines generally, owing to the liberal expenditure incurred during the past few years, and also to the lower price of permanent-way materials.

56½ miles of line were completely re-laid or re-railed and re-sleepered during the year.

During recent years 195 miles of 70 lb. to the yard iron rails have been removed from the main lines and steel rails substituted, nearly all of the latter being of a heavier section (80 lb. to the yard); the whole of the cost of the improved road has been charged to working expenses.

Flood repairs cost £11,215 during the year.

The flattening of the 8 and 10 chain curves in the Blue Mountains has been continued, and before the close of 1896 this work will be completed.

The work of cutting out some of the 1 in 33 and other heavy grades on the main lines has been carried on with vigour during the year, and great advantage to the working has been experienced.

On the Western Line the improvement of grades between Wellington and Dubbo has been almost completed.

The Locksley deviation will be completed on the 9th instant, and the alterations between Bell and Clarence are well in hand.

On the Southern Line several alterations have been completed, and other works of an important nature will be taken in hand immediately.

Diagrams showing the work dealt with since the last report was issued are given in the Appendices, pages 29 to 35.

The men in the locomotive, carriage, and waggon shops were working full time throughout the year; and the expenditure incurred for the repair and renewal of engines, carriages, and waggons has been increased, for wages and materials, by a sum of £42,832.

The

The rolling-stock is in excellent condition.

The reports of the Chief Mechanical Engineer and Engineer-in-Chief for Existing Lines will be found on pages 14 and 15.

Appendices are attached giving full information regarding the traffic expenses, &c., &c.

RESULTS OF THE WORKING.

RAILWAYS.

Year ending 30 June, 1896, compared with 1895 and 1888.

Particulars.	1896.	1895.	1888.
Total spent in construction and equipment	£36,852,194	£36,611,366	£27,722,748
Total Debentures finally paid off	£1,288,646	£1,266,146	£1,017,875
Total cost per mile open for traffic (including Workshops, Rolling Stock, &c., &c.)	£14,559	£14,463	£13,114
Total mileage open for traffic	2,531¼	2,531¼	2,114
Average miles opened for the year	2,531¼	2,516	2,044
Gross revenue	£2,820,417	£2,878,204	£2,295,124
Working expenses	£1,551,888	£1,567,589	£1,530,551
NET PROFIT ON WORKING ... ... (After paying Working Expenses).	**£1,268,529**	**£1,310,615**	**£764,573**
PERCENTAGE OF WORKING EXPENSES TO REVENUE	**55·02**	**54·46**	**66·69**
Earnings per average mile open	£1,114	£1,144	£1,123
Working expenses per average mile open	£613	£623	£749
NET RETURN PER AVERAGE MILE OPEN ...	**£501**	**£521**	**£374**
Gross earnings per train mile	s. d. 7 3¾	s. d. 7 7	s. d. 6 10¼
Working expenses per train mile	4 0¼	4 1½	4 7
NET PROFIT PER TRAIN MILE ... ... (After paying Working Expenses).	**3 3½**	**3 5½**	**2 3½**
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	£ s. d. **3 8 10**	£ s. d. **3 12 0**	£ s. d. **2 17 0**
Number of passenger journeys	21,005,048	19,725,418	15,174,115
Goods tonnage	3,778,731	3,907,844	3,331,671
Live-stock tonnage	174,844	167,249	68,101
Train mileage...	7,719,618	7,594,281	6,689,313

TRAMWAYS.

No new lines have been opened for traffic during the past year.

The cable line from King-street, Sydney, to Ocean-street, Woollahra, opened in September, 1894, has during the past year earned a return upon the capital of £4 15s. per cent.

The traffic on the City lines generally has at last shown some signs of improvement, and we hope that authority will soon be given by Parliament for the conversion of the steam system to the electric system, by which means we will be enabled to give a much more frequent and expeditious transit to and from the various suburbs.

The electric line in George-street recently recommended by the Public Works Committee will, when constructed, afford the much-needed relief to Elizabeth-street and the Bridge-street yard.

The general result of the working of the whole of the Tramways for the year is an increase of revenue of £6,865; the working expenses also increased by £5,290.

The cost of the lines open for traffic is £1,434,896, of which £36,837 has been paid out of the Consolidated Revenue, leaving £1,398,059, upon which interest has to be paid.

The return upon the capital invested is £3 13s. 9d. per cent.

The table on the following page will give further details regarding the year's operations.

Condition of Existing Lines.

A considerable amount of money has been spent upon the lines during the year, and they are generally in excellent order. Additional relaying has been authorised for the coming year.

Accommodation for the Traffic.

The duplication of the Glebe Point line has been authorised, so as to enable an improved service to be given.

A connection between the Crown-street line and the Cleveland-street line is being made, so as to enable a service to be given between the city and Dowling-street. This will be a considerable public convenience.

RESULTS OF THE WORKING.

TRAMWAYS—ALL LINES.

Year ending 30 June, 1896, compared with 1895 and 1888.

Particulars.	1896.	1895.	1888.
Total spent on construction and equipment	1,434,896	1,428,518	877,244
Total cost per mile open	23,523	23,418	22,786
Total mileage open for traffic	61	61	38½
Gross revenue	289,181	282,316	236,519
Working expenses	236,283	230,993	219,196
NET PROFIT (After paying Working Expenses) ...	**52,898**	**51,323**	**17,323**
PERCENTAGE OF WORKING EXPENSES TO REVENUE	**81·71**	**81·82**	**92·67**
Earnings per average mile open	4,740	4,666	6,224
Working expenses per average mile open	3,873	3,818	5,768
Gross earnings per tram mile	2/1¼	2/3	3/4¼
Working expenses per tram mile	1/8¾	1/10	3/1¾
NET PROFIT PER TRAM MILE	**4½ d.**	**5 d.**	**3 d.**
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	**£ 3 s. 13 d. 9**	**£ 3 s. 13 d. 9**	**£ 1 s. 19 d. 7**
Number of passenger fares collected	68,109,264	66,352,069	53,957,395
Tram mileage...	2,736,260	2,503,161	1,388,786

Further information regarding the working of the various sections will be found as an Appendix, page 27.

We have the honor to be,

Sir,

Your most obedient Servants,

E. M. G. EDDY,
Chief Commissioner.

CHARLES OLIVER,
Commissioner.

W. M. FEHON,
Commissioner.

CONTENTS OF APPENDIX.

RAILWAYS.

TRAMWAYS.

APPENDIX I.

REPORT on Condition of Lines and Works for the Year ending 30th June, 1896.

New South Wales Government Railways,
Sir, Office of Engineer-in-Chief for Existing Lines, 17 July, 1896.

I have the honor to report, for the information of the Commissioners, that the whole of the Permanent Way, Buildings, and Works have been thoroughly maintained during the past year.

Heavy floods occurred in February between Nyngan and Bourke, and also between Nyngan and Cobar. On the former section 100 miles were damaged (about 7½ being completely destroyed). On the Cobar line the damage extended over 50 miles, 1 mile being completely destroyed. Though the extent of the damage was so great (the repairs costing £8,000), traffic was only interrupted for eight days, and within a month the lines damaged were in order to admit of fast traffic.

During the year 56 miles 55 chains have been completely relaid, rerailed, and resleepered; 131 miles 54 chains have been lifted and ballasted; and 32 miles 51 chains of fencing have been renewed; the whole expenditure being charged to working expenses.

In connection with the relaying, &c., I might point out that in addition to the total mileage of road completely renewed, viz., 56 miles 55 chains, 41,955 new sleepers and 43,072 good sleepers recovered in relaying were used for partial resleepering and repairs, thus adding largely to the mileage of road made perfect during the year.

Various additional works fairly chargeable to capital have also been provided and paid for out of working expenses.

Improvement of Grades and Curves.

Steady progress has been made in the work of cutting out the sharp curves (8 and 10 chains radius) on the Western Mountains, improvements of this character having been made in the vicinity of Karabar, Faulconbridge, Valley Heights, and Linden. Similar works are in progress near Woodford, Lawson, and Katoomba.

Grade improvements have been completed at Toowong, on the Northern line; near Wingello, Moss Vale, and Carrick, and between Goulburn and Cullerin on the Southern line; and between Wellington and Maryvale and Geurie and Dubbo on the Western line; while rapid progress has been made with the deviations to cut out the steep grades between Locksley and Brewongle, and between Maryvale and Geurie on the Western line. Other grade improvements have been put in hand near Moss Vale and Exeter on the Southern, and between Bell and Clarence on the Western, Line.

I have, &c.,
THOMAS R. FIRTH,
Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

The following work was performed during the year:—

Sidings laid in and extended	4 miles 30¾ chains.
Sleepers used in new sidings	9,691.
Sleepers used in main lines	231,146.
Ballast used on maintenance of main lines	120,679 cubic yards.
Length of fences renewed	32 miles 51¼ chains.
Length of fences wired	58 chains.
Culverts and flood openings constructed...	232 feet extra waterway.

APPENDIX II.

The Chief Mechanical Engineer's Report for the Year ending 30th June, 1896.

Eveleigh, 27 July, 1896.

Sir,

I have the honor to report for the information of the Railway Commissioners, that the rolling stock, machinery, pumping and hydraulic plant belonging to this branch have been maintained in good working order.

Locomotives.

One tender engine was rebuilt and converted into a tank engine, nine others have been rebuilt, and 370 have been repaired during the year; 191 of them at Eveleigh, 52 at Newcastle, and the remaining 127 at smaller depôts. Two hundred and twenty-six of these engines received heavy repairs and 144 of them had general repairs of a lighter character.

Three new boilers were made in the Eveleigh Works, and 6 new boilers built by Messrs. Mort & Co. have been fitted to engines, and paid for out of Working Expenses. Three hundred and twenty-nine boilers were overhauled during the year; 189 of them at Eveleigh, 47 at Newcastle, and the remaining 93 at smaller depôts. One hundred and forty-nine of these boilers were internally examined, heavily repaired, refilled with tubes, and returned to locomotives. Sixty-six stationary boilers were overhauled; 15 of them received heavy repairs.

Carriages and Waggons.

Ninety-four vehicles were built in the Eveleigh and Newcastle shops during the year and charged to Working Expenses. One thousand three hundred and seventy-seven passenger vehicles were repaired in the workshops; 1,051 of them at Eveleigh and the remaining 326 at Newcastle. Five hundred and nineteen of these vehicles received heavy repairs, and 6,871 waggons and vans passed through the Eveleigh and Newcastle shops during the year, 2,265 of them being heavily repaired.

One hundred and fifteen defective axles have been withdrawn from traffic and replaced by stronger ones. One thousand seven hundred and thirty-three axle-boxes of defective design have been replaced by standard types, and charged against Working Expenses.

New Stock.

One Consolidation goods engine has been built in the Eveleigh Works, added to stock, and charged to Capital. Five heavy goods engines built by contractors have been put into traffic, two of which have been charged to this year's Working Expenses. The two new engines have a mean traction power of 57,600 and replace five old small engines of a traction power of 45,780.

Two trains of suburban bogie carriages (six first and six second class) have been built by contractors as renewals, and charged to Working Expenses. These replace twenty-four old four-wheel second-class carriages, the new vehicles having a floor area of 4,296 square feet, as compared with 3,456 square feet in the twenty-four old ones.

Twenty-five bogie sheep-vans and six tubular bolster waggons have been built by contractors as additional stock, and charged to Capital.

Sixty-four new vehicles (goods) have been built in the Eveleigh Works as renewals, and charged to Working Expenses; fifteen of these vehicles are bogie sheep vans, and have replaced thirty old vans of smaller capacity. Fourteen new goods vehicles have been built in the shops as additions to rolling stock, and charged to Capital.

Practically,

Practically, throughout the whole of the year, the mechanical staff has worked full time in contrast with the short time of last year, and the repairs effected have been of a more extensive and costly character.

The following statement shows the relative mileage executed and the working costs of the Locomotive Branch (including oiling and greasing) during the years 1895 and 1896 :—

	1896.	1895.	Increase.	Decrease.
Train miles	7,719,618	7,594,281	125,337	.....
Engine miles	10,895,776	10,444,441	451,335	.....
Revenue	£2,820,417	£2,878,204	.....	£57,787
Expenditure	£682,200	£625,433	56,767	.....
Do in per cent. to revenue	24·19	21·73	2·46	.....
Cost in pence per train mile	21·209	19·765	1·444	.....
Do engine mile	15·027	14·372	0·655	.....

I have, &c.,

W. THOW,

Chief Mechanical Engineer.

The Secretary to the Railway Commissioners.

APPENDIX III.

RAILWAYS.—RETURN OF WORKING ROLLING STOCK, 30TH JUNE, 1896.

	LOCOMOTIVES.		COACHING.							MERCHANDISE.						DEPARTMENTAL STOCK.	TOTAL.
	Engines.	Tenders.	Special and Sleeping Cars.	First Class.	Composites.	Second Class.	Brake-vans.	Horse-boxes, Carriage-trucks, &c.	Total.	Goods open.	Goods covered.	Meat Trucks.	Live Stock Trucks.	Brake-vans.	Total.	Loco. Coal, Ballast, &c., Wagons.	
Stock, 30th June, 1895...	523	441	43	181	85	250	181	301	1,044	7,416	640	85	1,142	211	9,494	1,063	10,557
	A			B		B					C						
Stock, 30th June, 1896...	521	441	43	187	85	235	181	201	1,032	7,433	638	87	1,156	211	9,525	1,060	10,585

A. Two consolidation engines, with a traction power of 57,600 lb., replace 5 small engines with a traction power of 45,750 lb.

B. Twelve bogie carriages (6 first and 6 second), with a floor space of 4,042 square feet, replace 24 four-wheel second class vehicles having a floor space of 3,596 square feet.

C. Fifteen bogie sheep-vans replace 30 four-wheel vehicles.

STATEMENT OF ACCOUNT OF THE EXPENDITURE AND REVENUE FOR YEAR 1896—1895.

DR. RAILWAYS. CR.

EXPENDITURE.	YEAR ENDING JUNE 30, 1896.	CORRESPONDING PERIOD IN 1895.
	£	£
To Maintenance of Way, Works, and Stations*	350,964	399,679
Locomotive Working*	362,089	347,769
Engine Repairs and Renewals*	171,166	146,794
Carriage and Waggon Repairs and Renewals*	150,073	130,870
Traffic Expenses	437,591	441,798
Compensation—Passengers	14,277	31,874
Do Goods	971	1,358
Gratuities to Widows and Children of Employees and Payments on Account of Pension Allowances	3,878	8,446
General Expenses	60,879	59,001
	1,551,888	1,567,589
BALANCE, NET RETURN after paying working expenses £	1,268,529	1,310,615
GRAND TOTAL £	2,820,417	2,878,204

REVENUE.	1896. No.	1895. No.	YEAR ENDING JUNE 30, 1896.	CORRESPONDING PERIOD IN 1895.
			£	£
By Passengers—				
First Class Tickets	2,341,957	2,484,672	262,510	257,016
Second Class Tickets	10,294,711	9,698,770	504,937	501,962
First Class Season Tickets	9,035	9,527	46,665	44,616
Second Class Season Tickets	28,950	24,976	27,808	24,164
Do Workman's Weekly Tickets	275,583	234,668	21,254	18,661
Horses, Carriages, and Dogs			13,717	14,372
Parcels and Cloak Room			79,811	75,758
Mails			61,389	61,362
Miscellaneous			3,085	3 196
Total Coaching £			1,021,176	1,001,107
General Merchandise			909,971	939,513
Wool			320,371	397,012
Live Stock			362,791	340,173
Minerals—Coal and Coke			176,554	173,593
Miscellaneous			6,097	4,896
Total Goods £			1,775,784	1,855,187
General Miscellaneous £			23,457	21,910
GRAND TOTAL £			2,820,417	2,878,204

* Includes Capital Works charged to Working Expenses.

THOMAS HALL,
Chief Accountant.

APPENDIX V.

SCHEDULES under **WORKING EXPENSES** for the Year ending the 30th June, 1896, with comparisons for 1895.

RAILWAYS.

BRANCHES.	Year ending June 30, 1896.	Corresponding period in 1895.
Maintenance of Way and Works.	£	£
Salaries, &c., of engineers, surveyors, draftsmen, clerks, inspectors, foremen, and timekeepers	27,630	29,169
Maintenance and renewals of permanent way, viz.:— Wages	223,314	239,336
Materials	52,410	74,994
Repairs and improvements, &c., of stations, buildings, bridges, signals, and other works — Wages	26,958	23,501
Materials	10,481	9,015
Sundries	2,625	2,811
Capital works charged to working expenses	7,546	20,853
Lines open and maintained— (1896. / 1895.) Quadruple 8½ / 8½; Double 154½ / 154½; Single 2,368¼ / 2,368¼		
2,531¼ / 2,531¼	350,964	399,679
Locomotive Working.		
Chief Mechanical Engineer, Superintendents, officers, and clerks	14,112	14,179
Foremen and timekeepers	10,661	10,300
Drivers and firemen	166,297	161,411
Cleaners, coalmen, and labourers	54,537	53,089
Stores for cleaners	2,922	2,877
Sundries	11,438	9,443
Coal, coke, and wood	71,488	69,169
Water	21,413	18,496
Oil, tallow, and waste	8,568	8,386
£	361,436	347,350
Capital works charged to working expenses	1,608	835
Engine Repairs and Renewals.		
Repairs and renewals of engines — Wages	132,007	119,272
Materials	38,939	27,200
£	170,946	146,472
Carriage and Waggon Repairs and Renewals.		
Coaching stock repairs and renewals — Wages	40,851	38,385
Materials	24,911	12,189
Goods stock repairs and renewals — Wages	49,896	46,714
Materials	28,141	28,698
£	143,799	125,986
Greasing and oiling carriages and wagons — Wages	3,167	3,026
Materials	2,372	1,764
Traffic charges		
£	5,539	4,790

BRANCHES.	Year ending June 30, 1896.	Corresponding period in 1895.
Traffic Expenses.	£	£
Chief Traffic Manager, Superintendents, and office staff	20,783	20,762
Station-masters, night officers, relieving and supervising staff	82,222	82,685
Station goods, and coaching clerks	23,133	22,796
Pointsmen, signalmen, and gatekeepers	40,351	40,195
Guards	52,355	51,249
Porters, labourers, &c.	135,086	133,396
Stores for stations	27,207	27,334
Advertising, stationery, printing, &c.	10,876	11,167
Travelling and Incidental	3,103	3,225
Sundries	42,475	48,989
£	437,591	441,798
Compensation.		
For personal injury—Passengers	14,277	31,874
For damage to and loss of goods	971	1,358
£	15,248	33,232
Gratuities to widows and children of employees who have met with accident, also gratuities to staff on retirement and payments to Civil Service Fund on account of Pension allowances	3,878	8,446
General Expenses.		
Commissioners, Secretary and office staff	9,255	9,479
Account branch	10,177	10,288
Audit branch	8,508	8,765
Stores branch	6,263	6,534
Telegraph branch	15,241	14,312
Sundries	11,435	9,623
£	60,879	59,001
GRAND TOTAL £	**1,551,888**	**1,567,589**

THOMAS HALL,
Chief Accountant.

APPENDIX VI.

COMPARATIVE Analysis of Revenue and Expenditure for the years ending 30 June 1896 and 1895.

Particulars.	Year ending 30 June, 1896. Numbers or Tonnage	Revenue.	Per mile open.	Per train mile	Year ending 30 June, 1895. Numbers or Tonnage	Revenue.	Per mile open	Per train mile.
Average miles open for traffic	Miles 2,531¼				Miles. 2,516			
Train mileage—								
Passenger	3,718,454				3,576,247			
Goods	4,001,164				4,018,034			
Total mileage	7,719,618				7,594,281			
REVENUE.								
	Numbers.	£	£	d.	Numbers.	£	£	d.
First-class Passengers	2,341,957	262,510	103·7	16·94	2,484,672	257,016	102 2	17·25
Second-class do	10,294,711	504,937	199 5	32 59	9,698,770	501,962	199 5	33·69
Season Tickets, 1st class	9,035	46,665	18 4	3 01	9,527	44,616	17·7	2 99
Do 2nd class	28,950	27,808	11 0	1·80	24,976	24,164	9 6	1·62
Workmen's Weekly Tickets, 2nd class	270,583	21,254	8·4	1 37	234,668	18,661	7 4	1·25
Horses, carriages, and dogs		13,717	5 4	0 89		14,372	5 7	0 97
Cloak-room and parcels		79,811	31·5	5 15		75,758	30·1	5 08
Mails		61,389	24 3	3 96		61,362	24·4	4·12
Miscellaneous		3,085	1·2	0 20		3,196	1 3	0·21
Total, coaching		1,021,176	403 4	65 91		1,001,107	397·9	67 18
	Tons.				Tons.			
General Merchandise	1,152,405	884,326	349·4	53·04	1,175,875	911,876	362·4	54·47
Wool	104,000	320,371	126 6	19·21	125,095	397,012	157 8	23 71
Live stock	174,844	362,791	143·3	21·76	167,249	340,173	135·2	20·32
Minerals—Coal and Coke	2,447,385	176,554	69·7	10 59	2,515,754	173,593	69·0	10 37
Minerals, other than coal	74,941	25,645	10 1	1·54	91,120	27,637	11·0	1·65
Miscellaneous		6,097	2 4	0·37		4,896	2·0	0 29
Total, goods	3,953,575	1,775,784	701·5	106·51	4,075,093	1,855,187	737·4	110 81
Sundries, special and miscellaneous		23,457	9·3	0·73		21,910	8·7	0 69
Total Revenue		2,820,417	1,114·2	87 68		2,878,204	1,144 0	90 96
EXPENDITURE.								
WORKING EXPENSES.	Expenditure.	Per mile open.	Per train mile.	Per cent. to Revenue	Expenditure.	Per mile open.	Per train mile	Per cent. to Revenue.
	£	£	d.		£	£	d.	
Maintenance of way, works, and stations*	350,964	138 6	10 91	12·44	399,679	158·9	12·63	13·89
Locomotive working*	362,089	143 0	11·26	12 84	347,769	138·2	10 99	12 08
Engine repairs and renewals*	171,166	67 6	5 32	6·07	146,794	58 4	4·64	5·10
Carriage and waggon repairs and renewals*	150,073	59 3	4·67	5 32	130,870	52·0	4·13	4 54
Traffic expenses	437,591	172 9	13 60	15·51	441,798	175·6	13·96	15 35
Compensation—Passenger	14,277	5·6	0 44	0·51	31,874	12·7	1·01	1·11
Do Goods	971	0 4	0·03	0·03	1,358	0 5	0 04	0 05
Gratuities to widows and children of employés, and payment on account of Pension Allowance	3,878	1 5	0 12	0 14	8,446	3·4	0·27	0·29
General expenses	60,879	24 1	1·89	2 16	59,001	23·4	1·87	2 05
Total expenditure	1,551,888	613 0	48·24	55 02	1,567,589	623·1	49·54	54 46
Net profit	1,268,529	501·2	39·44	.	1,310,615	520·9	41·42	. .
	EXPENDITURE PERCENTAGE TO GROSS REVENUE, 55·02				**Expenditure percentage to gross revenue, 54·46**			

* Includes Capital Works charged to Working Expenses

Percentage of Expenditure in each Division.

Divisions of Expenditure.	Year ending 30 June, 1896.	Year ending 30 June, 1895.
	%	%
Maintenance of Way, Works, and Station	22 62	25·49
Locomotive working	23 33	22 18
Engine repairs and renewals	11·03	9 36
Carriage and Waggon repairs and renewals	9·67	8 35
Traffic Expenses	28 20	28·18
Compensation (Passengers)	0·92	2 03
Do (Goods)	0 06	0 09
Gratuities to Widows and Children of Employés, and payment on account of Pension Allowance	0·25	0 54
General Expenses	3·92	3·78
	100 00	100 00

APPENDIX VII.

RETURN showing the Number of Passengers, Tonnage of Goods, Train Mileage, Earnings, Working Expenses, Percentage of Working Expenses to Gross Earnings, Net Earnings, Capital spent on Lines open, and Interest on Capital Invested each year, from 1855 to 1896, inclusive.

Year.	Length of Line.	Number of Passengers.	Tonnage of Goods.	Train Mileage.	Earnings from Coaching Traffic.	Earnings from Goods Traffic.	Total Earnings	Working Expenses.	Earnings per Train Mile.	Working Expenses per Train Mile.	Percentage of Working expenses to Gross Earnings.	Net Earnings.	Total Capital expended on Lines open.	Interest on Capital Invested.
	Miles.	No.	Tons.	No.	£	£	£	£	d.	d.	%	£	£	%
1855	14	98,846	140	14,107	9,093	156	9,249	5,959	157·34	101·37	64·43	3,290	515,347	·63
1856	23	350,724	2,469	68,371	29,526	2,757	32,283	21,788	113·32	76·48	67·49	10,495	683,217	1·53
1857	40	329,019	20,847	107,822	34,970	8,417	43,387	31,337	96·58	69·75	72·23	12,050	1,023,838	1·17
1858	55	376,492	33,385	141,495	45,858	16,451	62,309	43,928	105·69	74·51	70·50	18,381	1,231,867	1·49
1859	55	425,877	43,020	147,618	46,502	15,258	61,760	47,598	100·41	77·38	77·07	14,162	1,278,416	1·10
1860	70	551,044	55,394	174,249	45,428	16,841	62,269	50,427	83·37	67·52	80·98	11,842	1,422,672	·83
1861	73	595,591	101,130	214,881	49,637	25,367	75,004	61,187	83·77	68·34	81·58	13,817	1,536,032	·89
1862	97	642,431	205,139	274,565	62,096	41,775	103,871	68,725	90·79	60·07	66·16	35,146	1,907,807	1·84
1863	124	627,164	218,535	315,177	71,297	52,644	123,941	96,867	94·38	73·76	78·16	27,074	2,466,950	1·09
1864	143	693,174	379,661	415,422	81,487	66,167	147,654	103,715	85·30	59·92	70·24	43,939	2,631,790	1·66
1865	143	751,587	416,707	483,446	92,984	73,048	166,032	108,926	82·42	54·07	65·60	57,106	2,746,373	2·07
1866	143	668,330	500,937	490,475	85,636	82,899	168,535	106,23[illegible]	82·49	51·99	63·64	62,305	2,786,094	2·23
1867	204	616,375	517,022	600,751	87,564	101,508	189,072	117,324	82·02	46·87	62·08	71,748	3,282,320	2·18
1868	247	714,563	596,514	768,529	99,408	124,951	224,359	144,201	70·06	45·03	64·29	80,158	4,060,950	1·97
1869	318	759,635	714,113	893,552	109,427	155,548	264,975	176,362	71·17	47·37	66·57	88,613	4,681,329	1·89
1870	339	776,707	766,523	901,139	117,854	189,288	307,142	206,003	81·81	54·86	67·08	101,139	5,566,092	1·81
1871	358	759,062	741,986	931,333	129,496	225,826	355,322	197,065	91·57	50·79	55·46	158,257	5,887,258	2·68
1872	398	753,910	825,360	1,036,255	164,862	260,127	424,989	207,918	98·43	48·15	48·92	217,071	6,388,727	3·39
1873	403	875,602	923,788	1,109,879	178,216	306,020	484,236	238,035	104·71	51·47	49·16	246,201	6,739,918	3·65
1874	403	1,085,501	1,070,938	1,249,233	188,595	347,980	536,575	257,703	103·09	49·51	48·03	278,872	6,844,546	4·07
1875	473	1,288,225	1,171,354	1,472,204	205,941	408,707	614,648	296,174	100·20	48·28	48·18	318,474	7,245,379	4·39
1876	509	1,727,730	1,244,131	1,688,964	233,870	459,355	693,225	339,406	98·50	48·22	48·96	353,819	7,990,601	4·42
1877	598	2,957,144	1,430,041	2,106,802	271,588	544,332	815,920	418,985	92·95	47·73	51·35	396,935	8,883,177	4·46
1878	688	3,705,733	1,625,886	2,655,176	306,308	596,681	902,989	536,988	81·62	48·54	59·47	366,001	9,784,645	3·74
1879	734	4,317,864	1,720,815	2,932,463	319,950	632,416	952,366	604,721	77·94	49·49	63·49	347,645	10,406,495	3·34
1880	849	5,440,138	1,712,971	3,239,462	390,149	770,868	1,161,017	647,719	86·02	47·99	55·79	513,298	11,778,819	4·35
1881	995	6,907,312	2,033,850	3,923,929	488,675	955,551	1,444,226	738,334	88·33	45·16	51·12	705,892	13,301,597	5·30
1882	1,268	8,984,313	2,619,427	4,851,157	587,825	1,111,038	1,698,863	934,635	84·05	46·24	55·02	764,228	15,843,616	5·13
1883	1,320	10,272,037	2,864,566	5,937,261	661,751	1,269,713	1,931,464	1,177,788	78·07	47·61	60·97	753,676	16,905,014	4·48
1884	1,618	11,253,109	3,124,425	6,403,041	745,665	1,340,572	2,086,237	1,301,259	78·19	48·77	62·37	784,978	20,080,138	4·20
1885	1,732	13,506,346	3,273,004	6,638,399	830,904	1,343,464	2,174,368	1,458,153	78·61	52·72	67·06	716,215	21,831,276	3·37
1886	1,859	14,881,604	3,218,582	6,479,265	849,253	1,310,817	2,160,070	1,492,992	80·01	55·30	69·12	667,078	24,071,454	2·90
1887	2,036	14,451,303	3,339,253	6,472,107	850,499	1,357,796	2,208,295	1,457,760	81·88	54·05	66·01	750,535	26,532,122	2·96
1887-88 ...	2,114	15,174,115	3,399,772	6,689,313	918,975	1,376,149	2,295,124	1,530,551	82·34	54·91	66·69	764,573	27,722,748	2·85
1888-89 .	2,171	16,086,223	3,485,539	7,641,769	1,025,601	1,512,876	2,538,477	1,634,602	79·72	51·34	64·39	903,875	29,839,167	3·14
1889-90 ..	2,182	17,071,945	3,788,950	8,008,826	1,059,791	1,573,295	2,633,086	1,665,835	78·90	49·91	63·26	967,251	30,555,123	3·17
1890-91 ..	2,182	19,037,760	3,802,849	8,410,421	1,177,037	1,797,384	2,974,421	1,831,371	84·88	52·26	61·57	1,143,050	31,768,617	3·59
1891-92 ..	2,185	19,918,916	4,296,713	8,356,096	1,189,231	1,918,065	3,107,296	1,914,252	89·25	54·98	61·60	1,193,044	33,312,608	3·58
1892-93 ..	2,351	19,932,703	3,773,843	7,505,310	1,115,042	1,812,014	2,927,056	1,738,516	93·60	55·59	59·39	1,188,540	34,657,571	3·48
1893-94 ..	2,501¼	19,265,732	3,493,919	7,169,785	1,047,029	1,766,512	2,813,541	1,591,842	94·18	53·29	56·58	1,221,699	35,855,271	3·46
1894-95 ..	2,531¼	19,725,418	4,075,093	7,594,281	1,022,901	1,855,303	2,878,204	1,567,589	90·96	49·54	54·46	1,310,615	36,611,366	3·60
1895-96 ..	2,531¼	21,005,048	3,953,575	7,719,618	1,043,922	1,776,495	2,820,417	1,551,888	87·68	48·24	55·02	1,268,529	36,852,194	3·44

The accounts were made up to the 31st December in each year up to 1887, since that time up to the 30th June in each year.
Camden and Sans Souci Tramways not included prior to 1888 in this return.

APPENDIX VIII.

RETURN of the Total Amount paid for Wages on the different Branches of the Railways during the years ending 30th June, 1896 and 1895.

Branches.	1896.	1895.
RAILWAYS:—	£	£
Maintenance Branch	309,311	278,072
Locomotive „	479,838	452,555
Traffic „	233,160	229,293
TOTAL £	1,022,309	959,920

NOTE.—Includes all wages paid by the Department, whether on Maintenance or New Works.

APPENDIX IX.

STATEMENT of the Staff employed on the Railways and Tramways of New South Wales in June, 1896, as compared with October, 1888.

Branch.	October, 1888.			June, 1896.		
	No. of Salaried Staff.	No. of Wages Staff.	Total Staff.	No. of Salaried Staff.	No. of Wages Staff.	Total Staff.
RAILWAYS.						
Commissioners' and Secretary's Office	40	8	48	17	4	21
Chief Accountant	46	2	48	39	1	40
Traffic Audit	66	1	67	67	4	71
Stores	29	79	108	24	35	59
Permanent-way	156	3,140	3,296	104	2,743	2,847
Locomotive	146	3,218	3,364	A 143	3,246	3,389
Traffic	773	2,341	3,114	B 758	2,275	3,033
Electrical	54	24	78	C 52	54	106
Interlocking	17	188	205	14	146	160
General	5	.....	5	11	8	19
	1,332	9,001	10,333	1,229	8,516	9,745
TRAMWAYS.						
Permanent-way	1	200	201	6	235	241
Locomotive	24	590	614	22	707	729
Traffic	14	201	215	10	338	348
Do Plattsburg	.....	19	19	1	23	24
Stores	4	7	11	3	1	4
General	.....	.....	.....	.....	1	1
	43	1,017	1,060	42	1,305	1,347
TOTAL, RAILWAYS AND TRAMWAYS	1,375	10,018	11,393	1,271	9,821	11,092

A Includes 48 officers in charge of locomotive running sheds and time keepers.

B Includes 71 officers for additional stations and crossing places, 21 night-officers transferred from wages to salary list; also clerical positions formerly filled by men on wages list. Of the remaining 666, 364 are officers and night-officers in charge of stations and sidings, and 163 are clerks employed at stations.

C Includes 36 telegraph operators.

The Wages Staff does not include gatekeepers with free house only, as the information was not kept in 1888.

APPENDIX X.

RETURN of the Mileage of Suburban Passengers on All Lines of Railway during the years ending 30th June, 1896, 1895, and 1888.

DESCRIPTION.	1896.	1895.	1888.
NUMBER OF ORDINARY PASSENGERS ..... No.	10,635,753	10,192,545	7,413,868
NUMBER OF WORKMEN'S JOURNEYS ..... „	3,306,996	2,816,016	1,738,284
NUMBER OF SEASON TICKET HOLDERS' JOURNEYS ... „	4,608,828	4,326,542	3,227,760
TOTAL NUMBER OF PASSENGERS' JOURNEYS ..... „	18,551,577	17,335 103	12,379,912
NUMBER OF MILES TRAVELLED ..... MILES	104,310,788	98,432,950	70,172,793
AVERAGE MILEAGE PER PASSENGER ..... „	5·62	5·68	5·67
AMOUNT RECEIVED FROM PASSENGERS	252,025	244,926	186,393
AVERAGE RECEIPT PER MILE PER PASSENGER ..... D	0·58	0·60	0·64

Note.—Suburban Lines include only distances within 20 miles of Sydney and Newcastle, Liverpool and Morpeth included.

APPENDIX XI.

STATEMENT showing cost of Additions to Stations, Buildings, Siding Accommodation, &c., Machinery and Rolling Stock, the cost of which was charged to Capital Account, during the year ending 30th June, 1896.

	Amount. £
Additions to Stations, Buildings, &c.	18,674
Rolling Stock and additional appliances, including continuous brakes	41,266
	£59,940

APPENDIX XII.

Report of the Tramway Locomotive Superintendent.

Randwick, 27 July, 1896.

To the Secretary to the Railway Commissioners,—

Sir,

I have the honor to submit, for the information of the Railway Commissioners, the following report on the working of the Locomotive Department of the Tramways for the year ending 30th June, 1896:—

SYDNEY CITY AND SUBURBAN LINES.

The whole of the rolling stock, machinery, and plant has been maintained in good order, and the requirements of the traffic fully met. On the King-street to Ocean-street cable line the work of fitting the cars with an air-brake, referred to in my last, was completed in October, and the running is, in consequence, conducted in a much more satisfactory manner. The working expenses have also been considerably reduced, principally by the extensive improvements effected in the bottom gripper with which the line was originally equipped. Four grip-cars have been added to the stock and charged to working expenses. On the steam lines six cars have been renewed out of working expenses, while the remainder of the rolling stock was overhauled and renovated in the workshops in the following order:—

Motors: 62 received general overhaul; 64 heavy repairs; 480 minor repairs, occupying from one to eight days each; and 186 had casual repairs effected.

Cars: 176 (138 steam, and 38 cable) thoroughly overhauled and repainted; 190 repaired and partially repainted; and 1,017 received minor repairs occupying about one day each. In addition, one hearse was constructed for the Newcastle Tramways, and 21 road-watering tanks, 23 service trucks, and 29 cars for other lines received repairs.

Although called upon to render a greater service by 106,082 train miles on the steam system than in the previous year, it is gratifying to find that the aggregate expenditure was less, while the cost per mile fell from 14·59d. to 13·62d. In this connection the following table is of interest as showing the continued effort made in this Department to curtail the cost of working:—

SUMMARY of Train Mileage and cost of working Locomotive Department C. and S. Tramways from 1888 to 1896.

Year.	Train Mileage.	Working Expenses.	Loco. Cost per Train Mile.	Percentage Decrease on Cost in 1888.
		£	d.	d.
1888	1,246,543	128,688	24·775	.....
1889	1,338,386	126,301	21·833	11·673
1890	1,474,646	125,980	20·504	17·239
1891	1,553,048	130,978	20·241	18·300
1892	1,630,938	121,161	17·829	28·036
1893	1,708,042	122,468	17·208	30·543
1894	1,764,607	109,862	14·942	39·689
1895	1,767,043	107,443	14·593	41·098
1896	1,873,125	106,325	13·623	45·013

NORTH SHORE CABLE LINE.

On June 17th the main frames of the duplicate engines at the Ridge-street power-house were fractured during a trial run, and two new frames are now being fitted in lieu thereof; otherwise the engines and plant are in excellent condition. The Whitecross cable, brought into use on 1st June, 1895, is still running, but it is showing signs of wear, and will have to be replaced in the course of a few weeks. Ten grip and trail cars have been thoroughly overhauled and repainted, while the remainder have received necessary attention.

MILITARY ROAD OVERHEAD ELECTRIC LINE.

The reserve power at the Ridge-street Station has been augmented by the transfer there of the storage batteries recently used under the electric accumulator car which had been running as an experiment on the Sydney City and Suburban lines.

The motors and cars have been maintained in good condition, and although the train mileage was greater by 3,396 miles, the total expenditure of the power branch in 1896 was 10 per cent. less than in the previous year.

NEWCASTLE

NEWCASTLE CITY AND SUBURBAN LINES.

The maintenance of the rolling stock here has demanded a greater expenditure than in the previous year, owing to the necessity for overhauling and repainting a much larger number of cars. Six motors and cars of the combined type which had become worn out have been condemned and replaced by independent motors and cars from the Sydney lines. On the whole, the condition of the rolling stock and plant is much improved.

KOGARAH TO SANS SOUCI, AND MORPETH TO EAST MAITLAND LINES.

The rolling stock has been maintained in good order, and the traffic requirements fully met. At Morpeth an additional car has been supplied.

I have, &c.,
GEO. DOWNE,
Locomotive Superintendent.

APPENDIX XIII.

Report of Engineer for Tramways.

Tramway Department, Office of Engineer for Tramways, July, 1896.

To the Secretary to the Railway Commissioners,—

Sir,

I have the honor to submit, for the information of the Railway Commissioners, my Annual Report on the condition of the City and Suburban Tramways for the year ending 30th June, 1896.

No additional mileage, either for new lines or duplications, has been added during the year.

The roads are generally well paved and macadamised, and in good running order. During the year 10,608 tons of metal have been used for repairs.

On the Crown-street line, for a distance of 30½ chains, the track has been repaved and relaid with 60-lb. T rails. The following relaying has also been completed :—Portions of Forest Lodge line, 50 chains ; Botany line, 40 chains ; Newtown Junction to Forest Lodge Junction, 15 chains ; Leichhardt line, from Forest Lodge Junction to Ross-street, 73 chains. Total length, 2 miles 48½ chains of single track.

The wood-paving from kerb to kerb between Newtown and Glebe Point Junctions has been commenced. The whole of the work is being carried out by this branch, a portion of the cost being borne by the Works Department. Provision is being made to relay and renew the paving from Bridge-street to Redfern during the ensuing year.

With the exception of the crossings at King-street (which are seriously affected by the heavy steam-motors, and which will require renewing at an early date), the Ocean-street Cable line is in very good order.

The North Shore Cable, Military Road Electric, and Ashfield to Enfield lines have been well maintained during the year.

The buildings and waiting-sheds generally are in good order.

I have, &c.,
G. R. COWDERY,
Engineer for Tramways.

STATEMENT OF ACCOUNT OF THE EXPENDITURE AND REVENUE FOR YEAR 1896, WITH COMPARISONS FOR 1895.

DR. TRAMWAYS. CR.

EXPENDITURE.	YEAR ENDING JUNE 30, 1896.	CORRESPONDING PERIOD IN 1895.
CITY AND SUBURBAN.	£	£
To Maintenance of Way, Works, and Stations	32,473	28,914
Locomotive Power	93,235	93,219
Repairs and Renewals of Cars, &c.	12,490	13,220
Traffic Expenses	40,939	42,239
Compensation	3,265	2,124
General Charges	5,409	6,365
	187,811	186,081
NORTH SHORE CABLE.		
To Maintenance of Way, Works, and Stations	837	839
Running Expenses, &c	4,043	4,574
Repairs and Renewals of Cars, Grippers, &c	969	616
Traffic Expenses	2,410	2,013
General Charges	190	190
	8,449	8,232
NEWCASTLE AND PLATTSBURG. (Including Tighe's Hill and Merewether)		
To Maintenance of Way, Works, and Stations	1,912	1,618
Locomotive Power	9,277	9,245
Repairs and Renewals of Cars, &c.	1,444	808
Traffic Expenses	4,374	4,034
General Charges	177	170
	17,184	15,875
ASHFIELD TO ENFIELD.		
To Maintenance of Way, Works, and Stations	314	307
Locomotive Power	799	1,267
Repairs and Renewals of Cars, &c.	139	69
Traffic Expenses	368	330
General Charges	26	26
	1,646	1,999
NORTH SHORE MILITARY ROAD ELECTRIC		
To Maintenance of Way, Works, and Stations	447	435
Running Expenses, &c.	1,032	1,276
Repairs and Renewals of Cars, &c.	100	85
Traffic Expenses	462	327
	2,041	2,123
OCEAN-STREET TO KING-STREET. (Opened 19 September, 1894)		
To Maintenance of Way, Works, and Stations	1,388	825
Running Expenses, &c.	8,250	7,554
Repairs and Renewals of Cars and Grippers	2,898	2,699
Traffic Expenses	6,616	5,605
	19,152	16,683
TOTAL WORKING EXPENSES £	236,283	230,993
BALANCE, NET PROFIT after paying working expenses. £	**52,898**	**51,323**
GRAND TOTAL £	289,181	282,316

REVENUE.	Passenger Fares 1896.	Passenger Fares 1895.	YEAR ENDING JUNE 30, 1896.	CORRESPONDING PERIOD IN 1895.
			£	£
CITY AND SUBURBAN.				
By Passengers— Fares, &c.	53,317,979	54,173,917	227,525	230 583
NORTH SHORE CABLE.				
By Passengers— Fares, &c.	2,721,682	2,534,890	11,340	10,552
NEWCASTLE AND PLATTSBURG. (Including Tighe's Hill and Merewether)				
By Passengers— Fares, &c.	4,685,689	4,669,789	19,547	19,458
ASHFIELD TO ENFIELD.				
By Passengers— Fares, &c.	239,422	233,320	997	972
NORTH SHORE ELECTRIC.				
By Passengers— Fares, &c.	530,215	445,491	2,209	1,856
OCEAN-STREET TO KING-STREET.				
By Passengers— Fares, &c.	6,614,277	4,294,662	27,563	18,895
GRAND TOTAL £			289,181	282,316

THOMAS HALL,
Chief Accountant.

APPENDIX XV.

SCHEDULES under Working Expenses for the Year ending 30th June, 1896, with comparisons for 1895.

CITY AND SUBURBAN TRAMWAYS.

Branches.	Year ending June 30, 1896.	Corresponding period in 1895.
Maintenance of Way and Works.	£	£
Salaries, office expenses, and general superintendence	1,521	1,529
Maintenance and renewals of permanent way, viz.: Wages	21,084	18,423
Maintenance and renewals of permanent way, viz.: Materials	9,534	8,687
Repairs and renewals of buildings	334	275
£	32,473	28,914
Locomotive Power.		
Superintendence and clerks	2,088	2,029
Foremen and Clerks	1,748	1,735
Drivers and firemen	42,527	43,330
Cleaners, coalmen, and labourers	8,543	9,010
Coal, coke, and wood	10,071	9,348
Water	1,493	1,417
Oil, tallow, waste, &c.	2,068	2,168
Sundries	2,165	2,446
Repairs and renewals of motors: Wages	18,510	17,682
Repairs and renewals of motors: Materials	4,022	4,054
£	93,235	93,219
Cars and Waggons.		
Car repairs: Wages	6,317	6,144
Car repairs: Materials	5,808	6,693
Waggon repairs: Wages	15	28
Waggon repairs: Materials	11	19
£	12,151	12,884
Greasing and oiling: Wages	222	231
Greasing and oiling: Materials	117	105
Traffic charge		
£	339	336

Branches.	Year ending June 30, 1896.	Corresponding period in 1895.
Traffic Expenses.	£	£
Traffic Manager's office and staff	2,258	1,904
Clerks	1,004	919
Staffmen, pointsmen, and flagmen	4,095	5,015
Conductors	21,857	22,709
Car-cleaners, shunters, and lamp-trimmers	3,814	4,114
Stores	1,780	1,926
Advertising, printing, and stationery	1,798	1,434
Travelling and incidental	189	180
Sundries	4,144	4,038
£	40,939	42,239
Compensation.		
For personal injury	2,941	2,025
For damage to vehicles, &c.	324	99
£	3,265	2,124
Gratuities to widows and children of employees who have met with accident, also gratuities to staff on retirement and payments to the Civil Service Fund on account of pension allowance	356	535
General Expenses.		
Commissioners, Secretary, and office staff	1,332	1,332
Accountant's Branch	1,250	1,250
Audit Branch	1,459	1,331
Stores Branch	422	390
Sundries	590	1,527
£	5,053	5,830
GRAND TOTAL £	187,811	186,081

APPENDIX XVI.

APPENDIX XVII.

SCHEDULES under Working Expenses for the Year ending the 30th June, 1896, with comparisons for 1895.

North Shore Cable Tram.

Branches.	Year ending June 30, 1896.	Corresponding period in 1895.
Permanent Way Branch.	£	£
Superintendence and Office Expenses	37	47
Repairs and Renewals of Line, Sidings, Buildings, &c.	800	792
£	837	839
Locomotive Branch.		
RUNNING, &C.		
Superintendence and Office Expenses	301	321
Repairs to Machinery, Tools, &c.	191	180
Wages of Drivers, Firemen, Cleaners, Gripmen, and others	2,389	2,352
Cost of Fuel, Running Stores, &c.	614	653
Repairs to Stationary Engines, Cables, &c.	548	1,068
£	4,043	4,574
Repairs to Cars, Grippers, &c.	969	616
Traffic Branch.		
Management and Office Expenses	188	83
Wages of Conductors, and others	1,896	1,718
Sundry charges, including Stores, &c.	326	212
£	2,410	2,013
General Charges.		
Proportion of General Establishment, &c.	190	190
GRAND TOTAL £	8,449	8,232

Plattsburg, Tighe's Hill, and Merewether Lines (Steam).

Branches.	Year ending June 30, 1896.	Corresponding period in 1895.
Permanent Way Branch.	£	£
Superintendence and Office Expenses	39	54
Maintenance of Lines, Sidings, Bridges, Buildings, &c.	1,873	1,564
£	1,912	1,618
Locomotive Branch.		
Locomotive Superintendent, Foremen, and Clerks	269	263
Locomotive Drivers, Firemen, Cleaners, and others	5,309	5,168
Coal, Coke, Water, Oil, Tallow, Waste, &c.	1,838	1,889
Repairs and Renewals of Engines	1,861	1,925
£	9,277	9,245
Repairs to Cars, &c.	1,444	808
Traffic Branch.		
Traffic Manager and Office Staff	606	541
Conductors, Staffmen, Pointsmen, Car-cleaners, &c.	3,172	3,108
Sundry charges, including Stores, &c.	596	385
£	4,374	4,034
General Charges.		
Proportion of General Establishment, &c.	177	170
GRAND TOTAL £	17,184	15,875

APPENDIX XVIII.

The working of the Tram-lines in sections is as under:—

	1896.	1895.	1888.
CITY AND SUBURBAN LINES. *Length, 40 miles 25 chains.*			
Total Cost of Construction and Equipment	£961,778	£962,037	£742,555
Gross Revenue	227,525	230,583	221,060
Working Expenses	187,811	186,081	204,227
Profit on Working	39,714	44,502	16,833
Percentage, Working Cost to Revenue	82·54	80·70	92·38
Total Mileage open	40¼	40¼	29½
Passenger Fares collected	53,317,979	54,173,917	51,563,197
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	**£4 2 7**	**£4 12 6**	**£2 5 4**
ASHFIELD TO ENFIELD. *Length, 1 mile 78 chains.*			
Total Cost of Construction and Equipment	£16,371	£15,967	
Gross Revenue	997	972	
Working Expenses	1,646	1,999	
Interest on Capital	573	559	Not open.
Percentage, Working Cost to Revenue	222·57	263·17	
Total Mileage open	2	2	
LOSS ON WORKING	**1,222**	**1,586**	
NORTH SHORE CABLE TRAMWAY. *Length, 2 miles 11 chains.*			
Total Cost of Construction and Equipment	£114,428	£114,628	£71,519
Gross Revenue	11,340	10,552	7,248
Working Expenses	8,449	8,232	6,833
Profit on Working	2,891	2,320	415
Percentage, Working Cost to Revenue	74·51	78·01	94·26
Total Mileage open	2⅕	2⅕	1½
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	**£2 10 6**	**£2 0 6**	**£0 11 7**
OCEAN-STREET CABLE TRAMWAY. *Length, 2 miles 32 chains.*			
Total Cost of Construction	£177,180	£171,905	
Gross Revenue	27,563	18,895	
Working Expenses	19,152	16,683	Not open.
Profit on Working	8,411	2,212	
Percentage, Working Cost to Revenue	69·48	88·29	
Total Mileage open	2⅜	2⅜	
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	**£4 14 11**	**£1 12 10**	
NORTH SHORE—MILITARY ROAD—ELECTRIC. *Length, 2 miles 13 chains.*			
Total Cost of Construction and Equipment	£27,601	£26,697	
Gross Revenue	2,209	1,856	
Working Expenses	2,041	2,123	Not open.
Profit on Working	168	£267 loss.	
Percentage, Working Cost to Revenue	92·39	164·71	
Total Mileage open	2¼	2¼	
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	**£0 12 2**	**1,201 Loss.**	
NEWCASTLE TO PLATTSBURG. Merewether and Tighe's Hill Sections. *Length, 12 miles 1 chain.*			
Total Cost of Construction and Equipment	£137,538	£137,284	£63,170
Gross Revenue	19,547	19,458	8,211
Working Expenses	17,184	15,875	8,136
Profit on Working	2,363	3,583	75
Percentage, Working Cost to Revenue	87·91	81·58	99·08
Total Mileage open	12	12	7½
PERCENTAGE OF PROFIT TO CAPITAL INVESTED	**£1 14 4**	**£2 12 2**	**£0 2 4**

APPENDIX XIX.

RETURN showing the Number of City and Suburban Passenger Fares collected, Tram Mileage, Earnings, Working Expenses, Percentage of Working Cost to Earnings, Capital Spent on lines open, and Interest on Capital Invested for each year from 1879 to 1895 inclusive.

CITY AND SUBURBAN.

Year.	Length of Line.	Number of Passenger Fares collected.	Tram mileage.	Total Earnings.	Working Expenses.	Earnings per Tram Mile.	Working Cost per Tram Mile.	Percentage of Working Cost to Gross Earnings.	Net Earnings.	Capital spent on lines open.	Interest on Capital invested
	Miles.			£	£				£	£	
1879*	1½	443,341	13,270	4,416	2,278	79·87	41·19	51·59	2,138	22,269	33·00
1880	4	2,086,897	84,074	18,980	13,444	54·18	38·38	70·83	5,536	60,218	12·34
1881	9½	7,090,125	296,906	62,549	52,107	50·56	42·12	83·31	10,442	169,450	6·16
1882	22	15,269,100	670,649	126,202	103,136	45·16	36·91	81·72	23,066	412,561	6·80
1883	25	25,684,285	1,076,096	190,699	178,877	42·53	39·89	93·80	11,822	544,105	2·22
1884	27½	30,202,303	1,242,491	219,942	215,167	42·48	41·56	97·83	4,775	643,111	0·76
1885	27½	†39,594,753	1,220,500	223,340	207,995	43·91	40·90	93·13	15,345	708,109	2·17
1886	27½	52,977,578	1,222,943	226,367	201,737	44·42	39·59	89·12	24,630	742,113	3·37
1887	29½	50,108,256	1,220,026	214,125	201,468	42·12	39·63	94·08	12,657	731,582	1·76
1888	29½	51,563,197	1,246,543	221,060	204,227	42·56	39·32	92·38	16,833	742,555	2·22
1889	29½	52,810,026	1,338,386	225,833	206,092	40·49	36·95	91·25	19,741	771,255	2·56
1890	30½	57,463,650	1,474,646	249,508	207,517	40·60	36·46	83·17	41,991	790,555	5·31
1891	33½	62,676,636	1,553,048	270,365	221,505	41·78	34·23	81·92	48,860	857,455	5·74
1892	37	65,299,063	1,613,443	279,321	229,145	41·55	34·09	82·04	50,176	932,907	5·54
1893	38	63,588,885	1,681,232	271,041	214,824	38·69	30·67	79·26	56,217	947,775	5·94
1894	40¼	58,773,094	1,737,846	250,809	206,554	34·64	28·53	82·35	44,255	954,035	4·64
1895	40¼	54,173,917	1,740,235	230,583	186,081	31·80	25·66	80·70	44,502	962,037	4·62
1896	40¼	53,317,979	1,845,626	227,525	187,811	29·59	24·42	82·54	39,714	961,778	4·13

* The line was opened for three and a half months only in 1879, and for part of this period was worked with horse-power.

† Up to the year 1885, 3d. cash fares and 2d. tickets were counted as single fares; from 1886, inclusive, all tickets issued were at 1d. values, and cash fares paid are in this Return calculated at same rate.

APPENDIX XX.

RETURN of the total Amount paid for Wages on the different Branches of the Tramways, year ending 30th June, 1896 and 1895.

Branches.	1896.	1895.
TRAMWAYS:—	£	£
Maintenance Branch	25,307	24,413
Locomotive ,,	97,450	98,230
Traffic ,,	42,343	42,538
TOTAL, TRAMWAYS £	165,100	165,181

NOTE.—Includes all wages paid by the Department, whether on maintenance or new work.

APPENDIX XXI.

TRAMWAY Rolling Stock, 30 June, 1896.

	Motors.	Dummies.	Cars.	Trucks.	Water Tanks.	Total.
Sydney, City, and Suburban	103	.....	201	14	6	324
Military Road Electric	.....	.....	3	.....	.....	3
North Shore Cable	.....	13	23	.....	.....	36
Ocean-street Cable	.....	.....	49	.....	.....	49
Newcastle District	13	.....	27	3	.....	43
Total	116	13	303	17	6	455

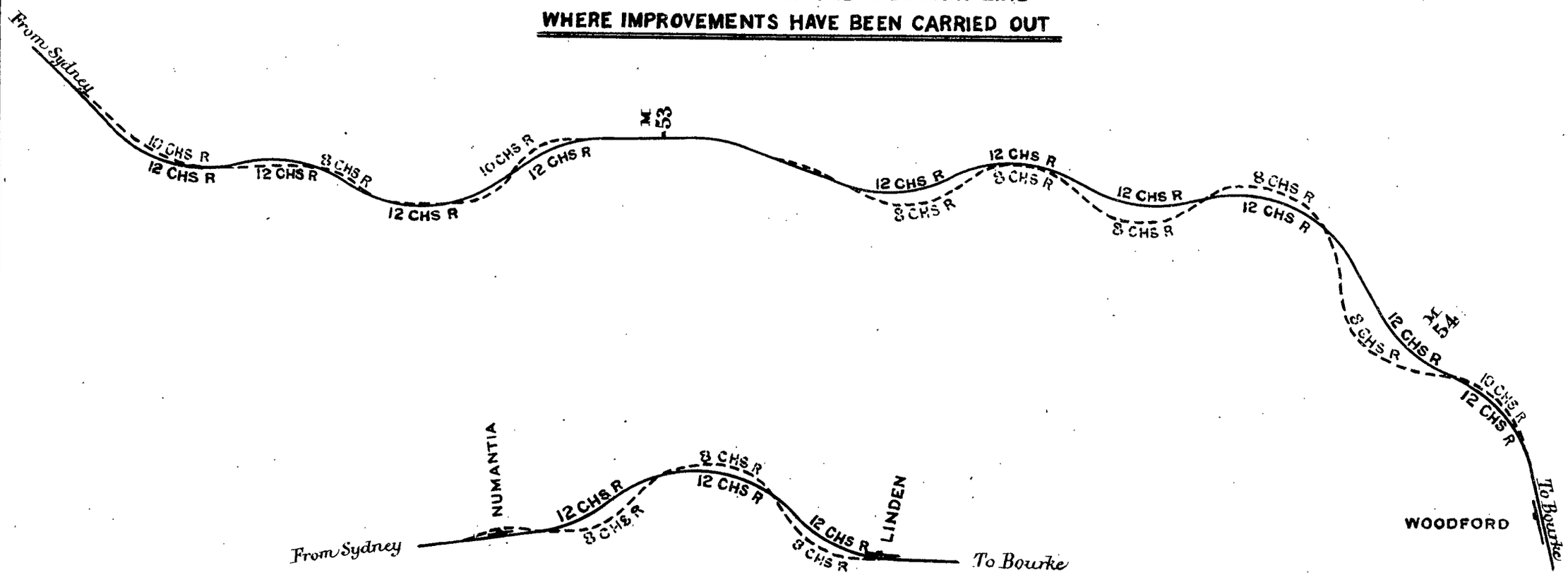
NOTE

———— SHEWS ORIGINAL LINE

———— " IMPROVED "

DIAGRAM

SHEWING PORTIONS OF THE WESTERN LINE WHERE IMPROVEMENTS HAVE BEEN CARRIED OUT



NOTE

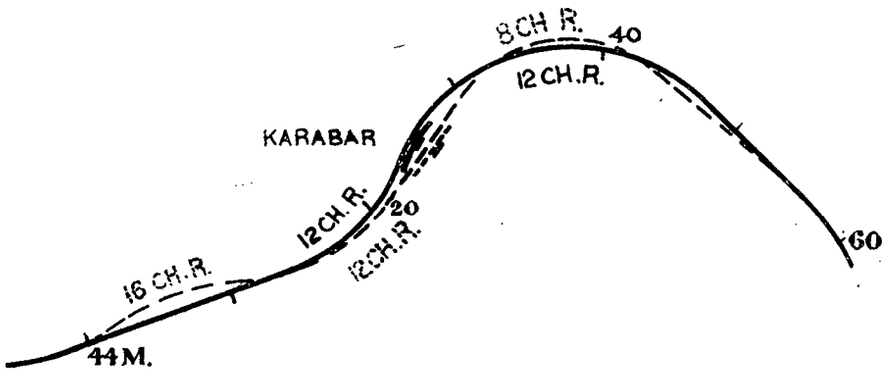
SHEWS ORIGINAL LINE

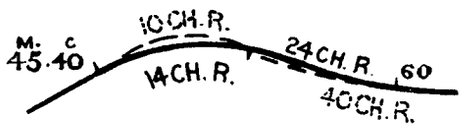
" IMPROVED "

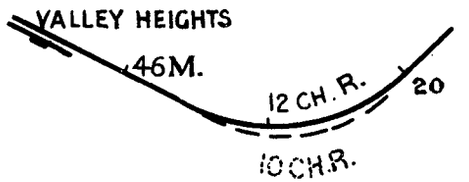
DIAGRAM

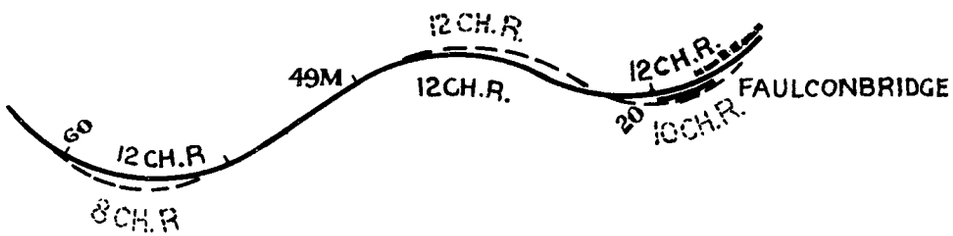
SHEWING PORTIONS OF THE WESTERN LINE

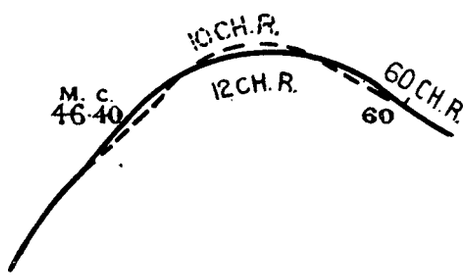
WHERE CURVE IMPROVEMENTS HAVE BEEN CARRIED OUT

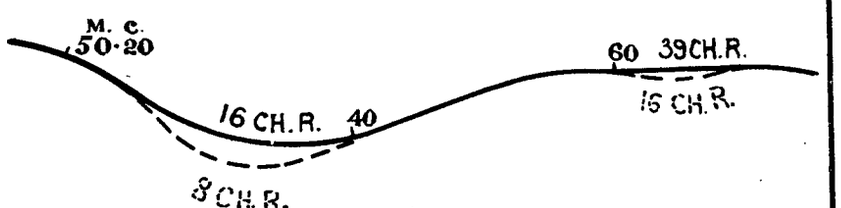












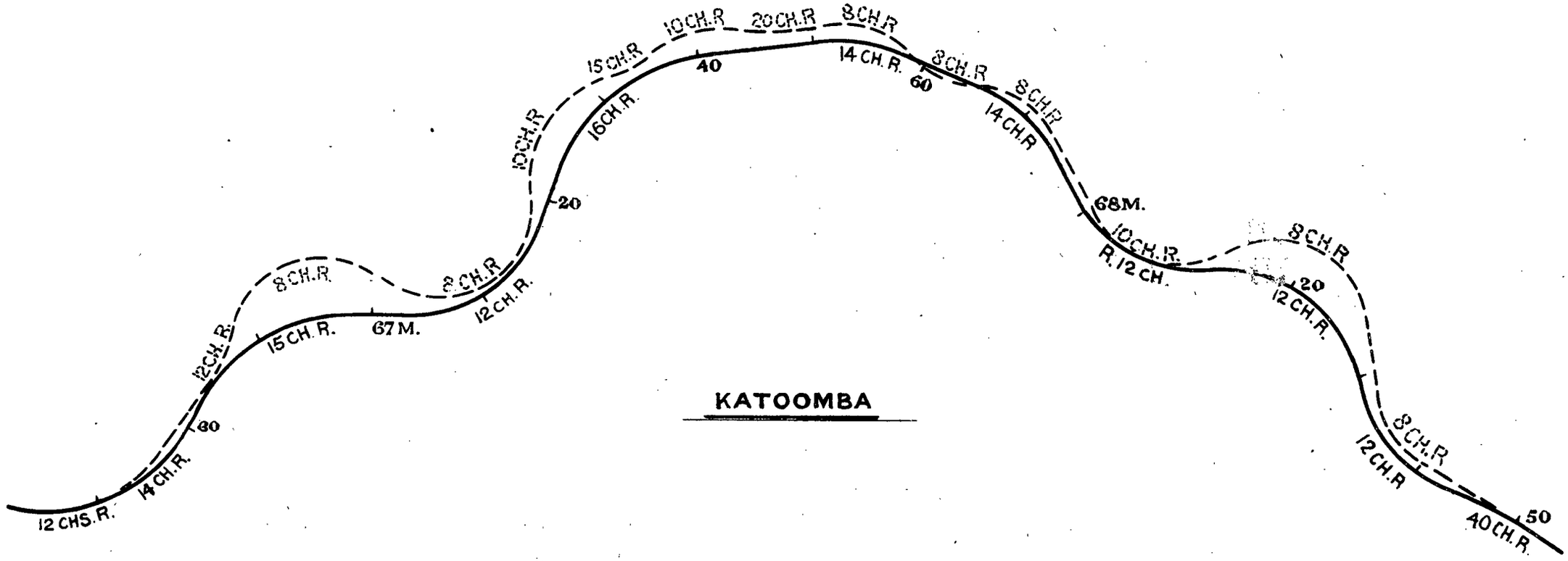
NOTE

SHEWS ORIGINAL LINE

" IMPROVED "

DIAGRAM

SHEWING PORTIONS OF THE WESTERN LINE WHERE CURVE IMPROVEMENTS HAVE BEEN COMMENCED



KATOOMBA

NOTE

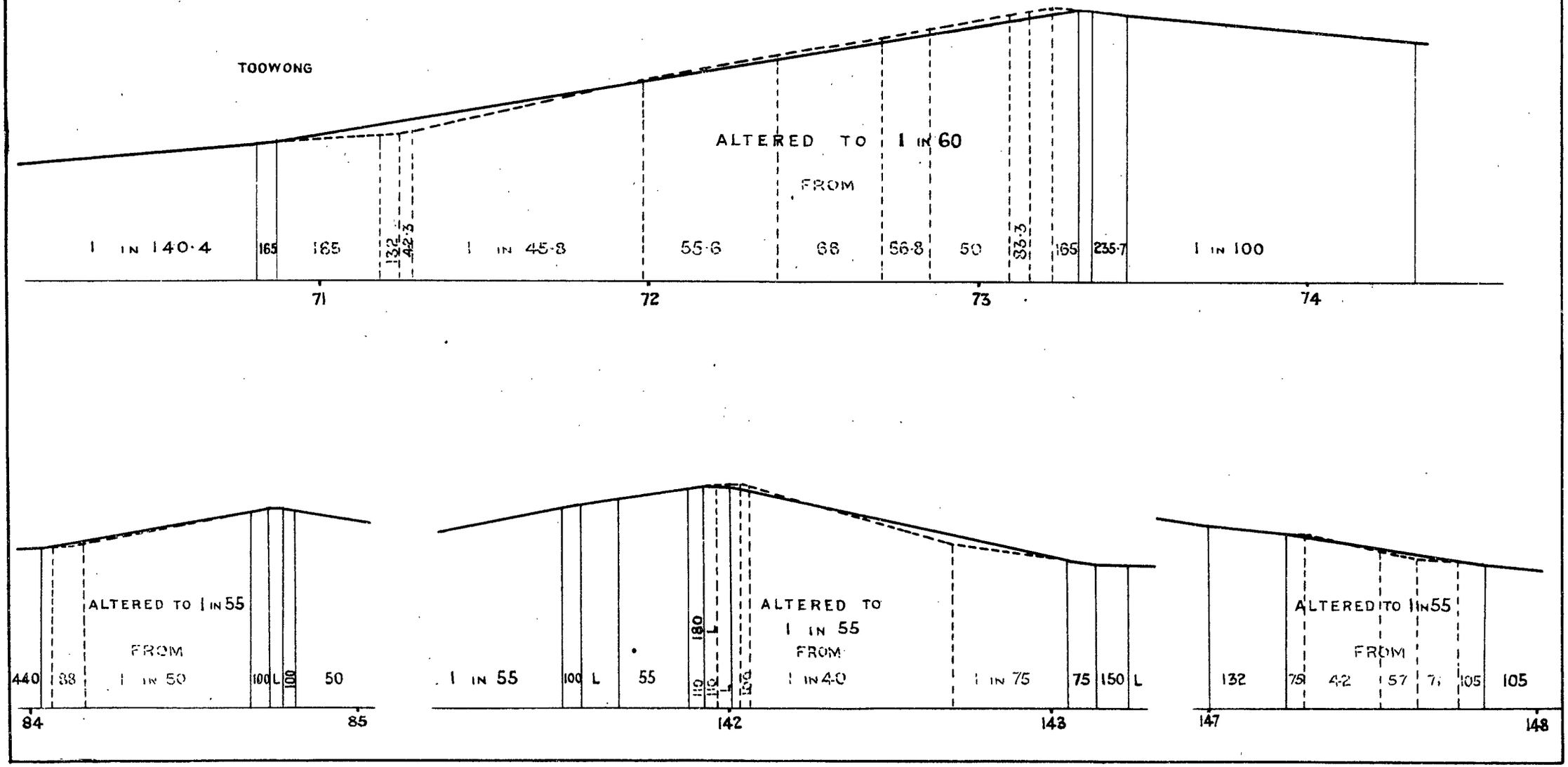
—— — — SHEWS ORIGINAL LINE

———— " IMPROVED "

DIAGRAM

SHEWING PORTIONS OF THE NORTHERN LINE

WHERE IMPROVEMENTS HAVE BEEN CARRIED OUT



NOTE

SHEWS ORIGINAL LINE

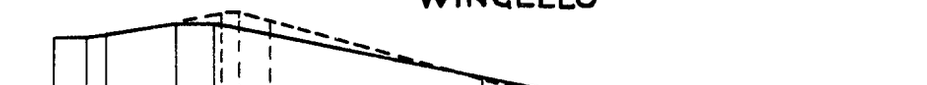
" IMPROVED "

MOSS VALE

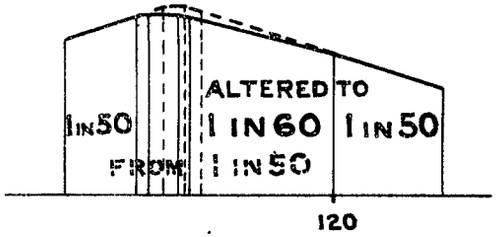
DIAGRAM

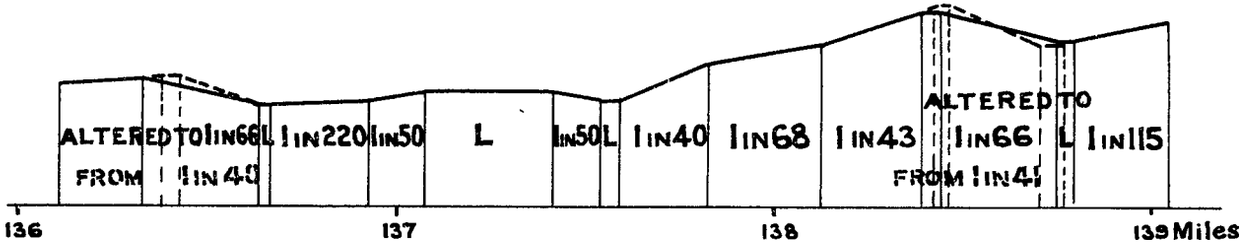
SHEWING PORTIONS OF THE SOUTHERN LINE WHERE IMPROVEMENTS HAVE BEEN CARRIED OUT

WINCELLO

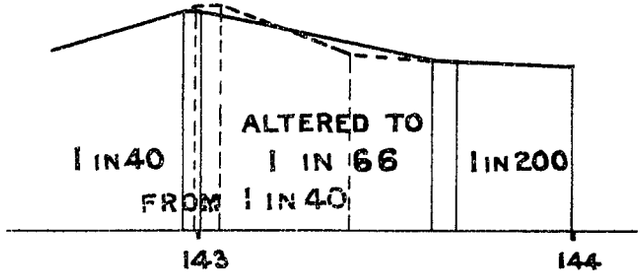


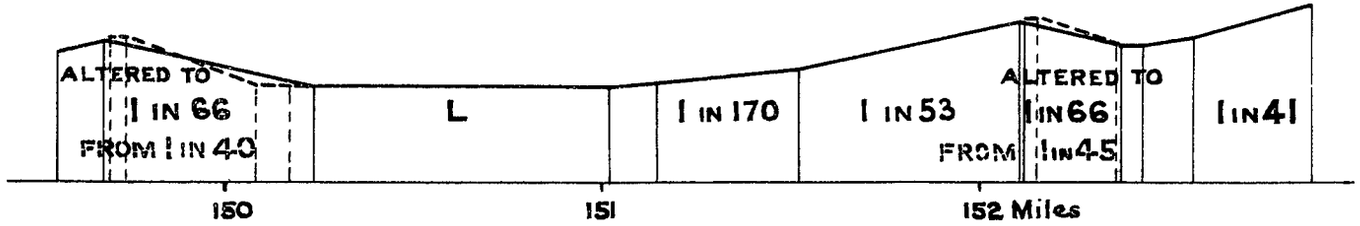
NEAR CARRICK





BETWEEN GOULBURN AND CULLERIN

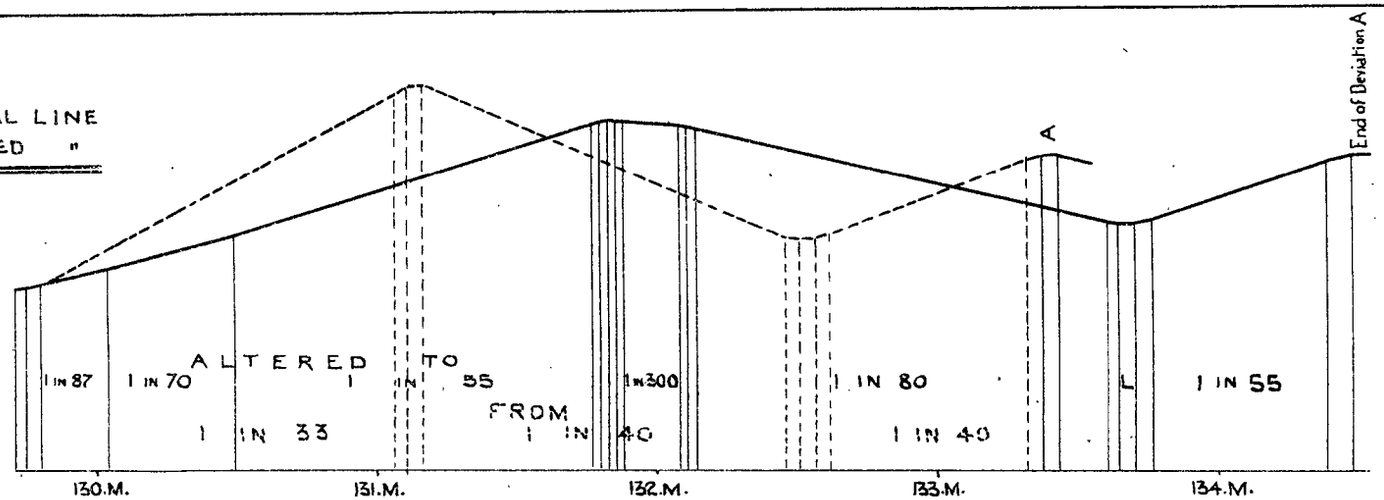




NOTE

_____ SHEWS ORIGINAL LINE

" IMPROVED "

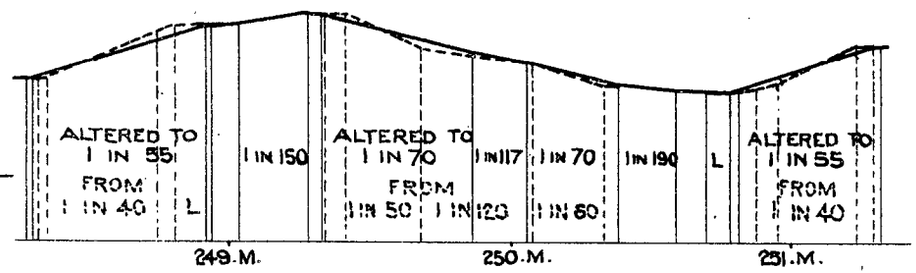


LOCKSLEY DEVIATION

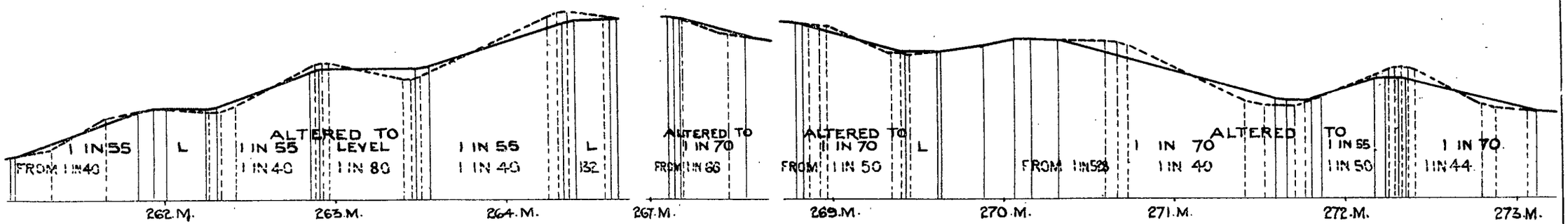
DIAGRAM

— SHEWING PORTIONS OF WESTERN LINE —

WHERE IMPROVEMENTS HAVE BEEN CARRIED OUT —



BETWEEN WELLINGTON AND DUBBO



NOTE

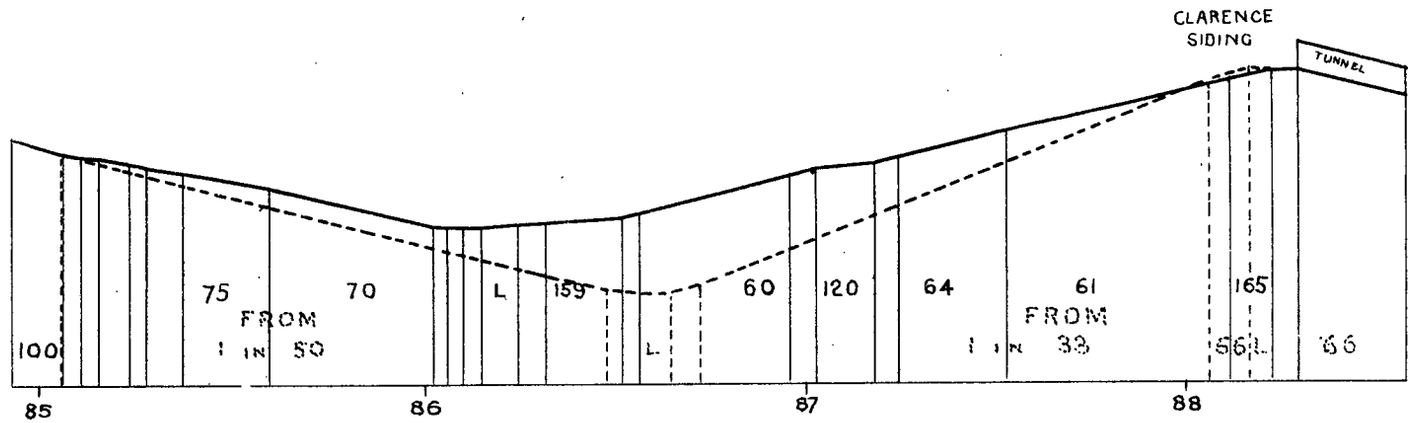
SHEWS ORIGINAL LINE

" IMPROVED

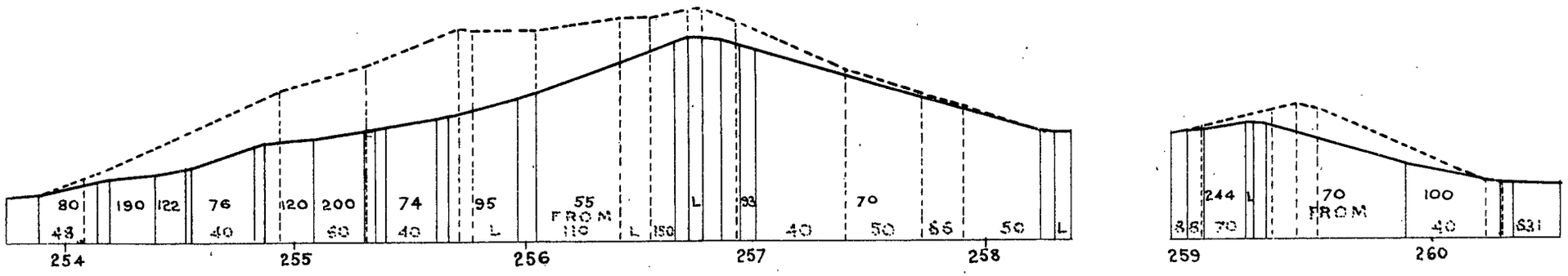
DIAGRAM

SHEWING PORTIONS OF THE WESTERN LINE

WHERE IMPROVEMENTS HAVE BEEN COMMENCED



DARGANS CREEK DEVIATION

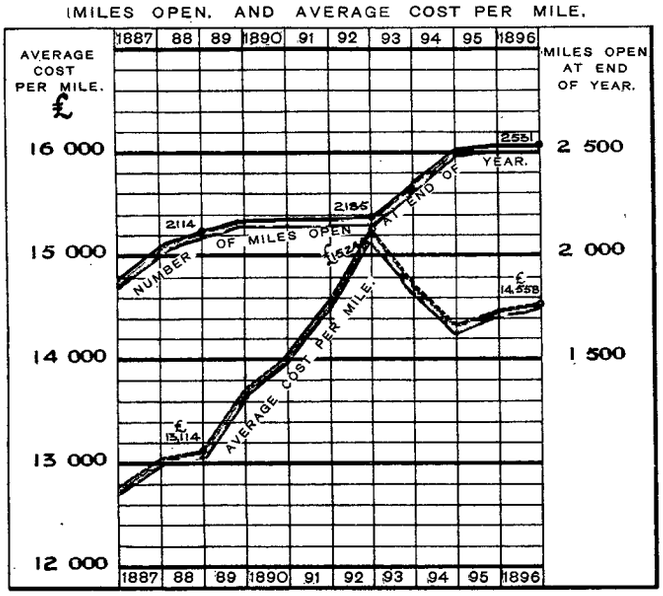


MARYVALE AND GEURIE DEVIATION

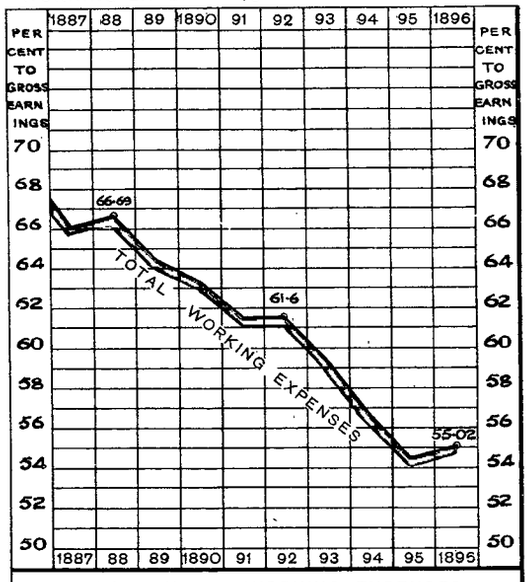
36

RAILWAYS.

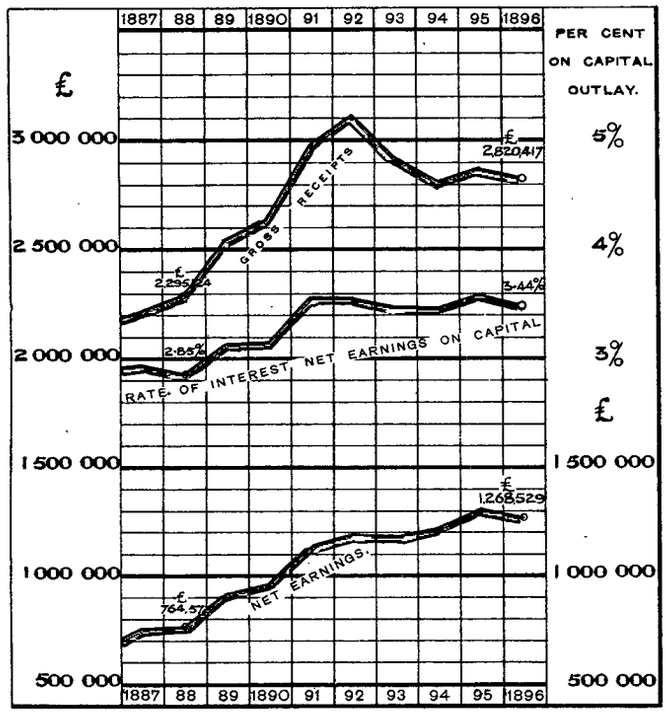
MILES OPEN, AND AVERAGE COST PER MILE.



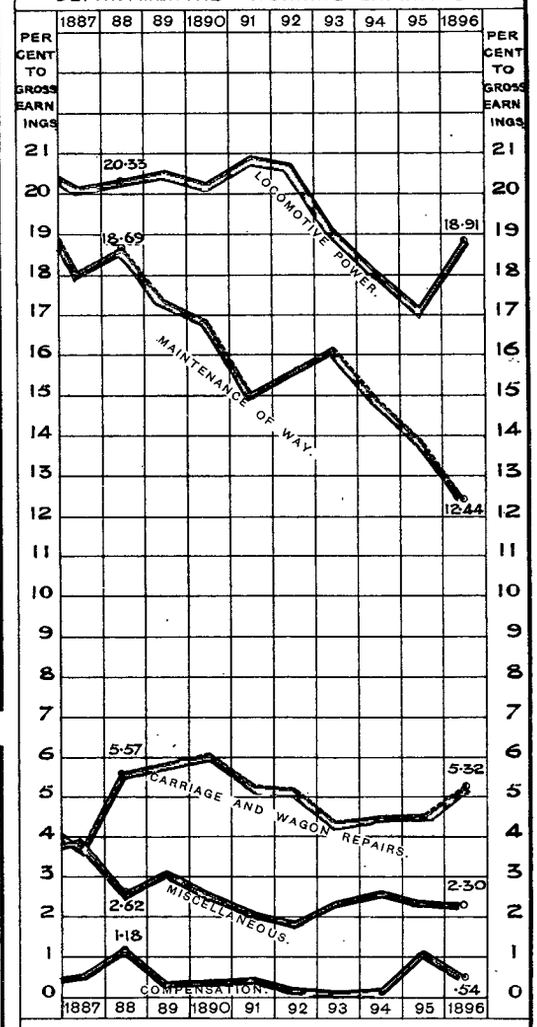
WORKING EXPENSES % OF GROSS EARNINGS.



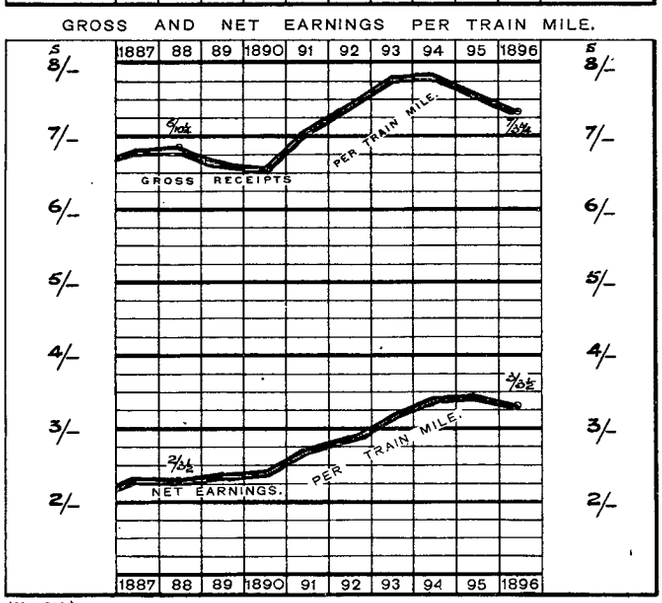
GROSS AND NET EARNINGS.

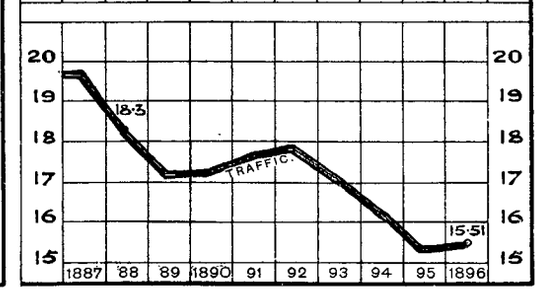


DEPARTMENTAL WORKING EXPENSES



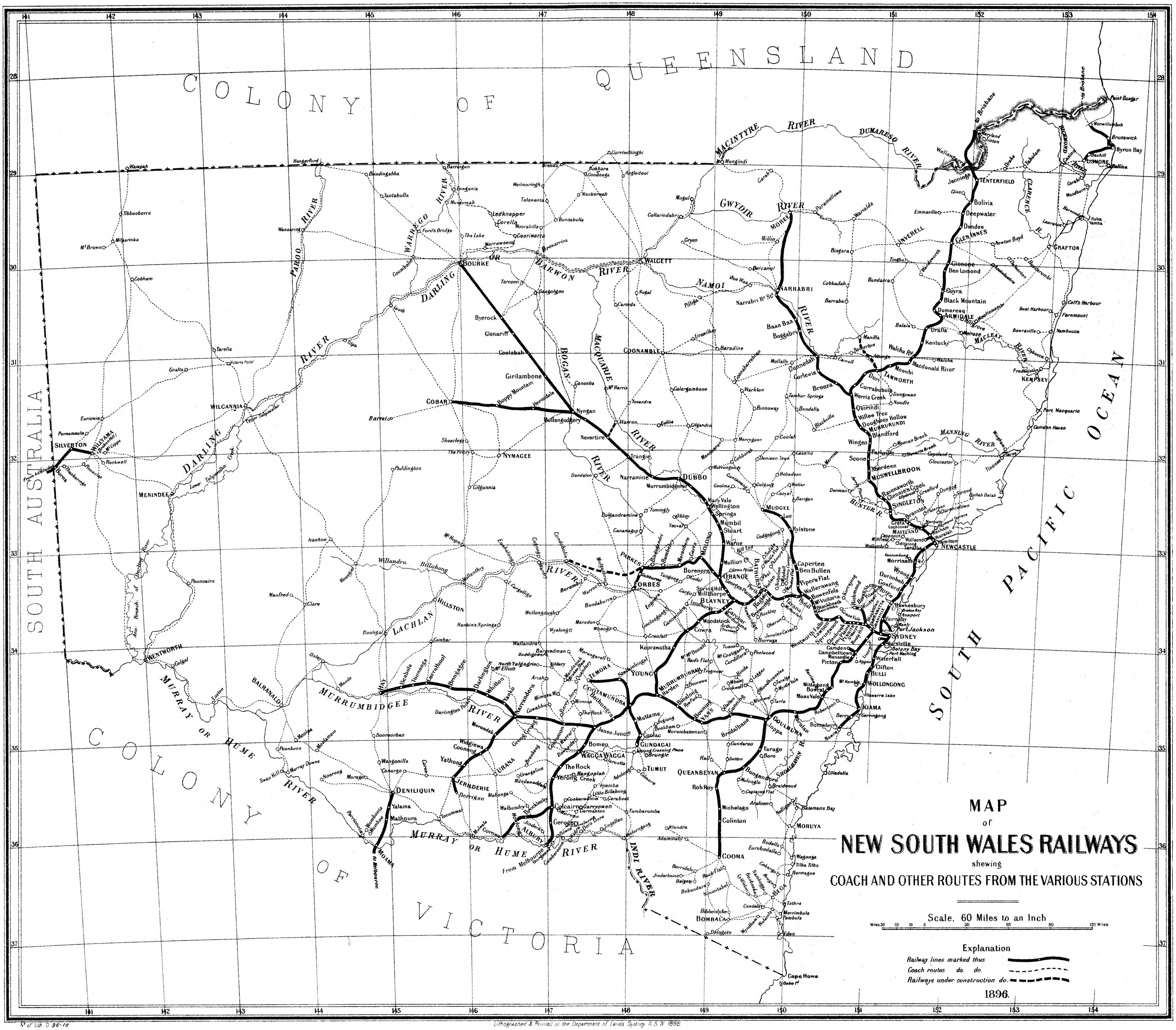
GROSS AND NET EARNINGS PER TRAIN MILE.





(Sig. 91.k)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.



Nº of Lith D 96-18

Lithographed & Printed at the Department of Lands Sydney N.S.W 1896

MAP
SHEWING THE PRINCIPAL
RAILWAY SYSTEMS
OF
AUSTRALIA
1896.
SCALE
STATUTE MILES
Railway Lines shewn thus

Printed at the Department of Lands, Sydney, N.S.W. Photo-Lith. 1896

APPENDIX XXII.

RETURN of the number of **LIVE STOCK** forwarded on the New South Wales Government Railways for the year ending 30th June, 1896.

Stations	Number carried				
	Horses	Cattle	Calves	Sheep	Pigs
Darling Harbour	1,488	877	239	9,064	13 327
Ashfield	3	19	3		
Burwood			1		
Homebush	2	16	2		
Flemington	471	6,119	128	119,o88	679
Granville	3	13	8		68
Fairfield		80	3		13
Cabramatta	1	12	20		2
Liverpool		610	592		604
Ingleburn		2	28		10
Minto			3		72
Campbelltown	24	823	899	124	220
Menangle	9	87	66		443
Douglas Park		4		80	
Picton	61	160	236		436
Thirlmere	3		2		54
Hilltop					10
Colo Vale					3
Mittagong	11	31	1	96	192
Bowral	42	o9	21	90	916
Moss Vale	174	565	181	1,686	793
Exeter		3		72	93
Bundanoon					8
Wingello					78
Marulan	11	577	559	8,039	157
Towrang					92
Goulburn	183	2,294	589	59,438	8,266
Bredalbane	13	281		8,682	197
Gunning	22	344	41	20 746	5o2
Yass Junction	160	1,286	429	26,739	427
,, Town				26	43
Bowning	61	663	124	14,753	166
Binalong	15	530	94	20 192	43o
Galong				12,029	1 298
Harden	37	453	352	17,718	834
Murrumburrah					40
Wallendbeen	6o	55	87	20,245	4o9
Cootamundra	66	596	31	28 205	998
Bethungra	6			>,964	10
Illabo				9,021	134
Junee	65	177	129	10 209	
Bomen	43	3,484	4o7	13 384	99
Wagga	301	4,441	108	81 622	600
The Rock	53	51		48 224	1
Yerong Creek				27,040	151
Henty				7 219	
Culcairn	17	602	43	30,716	81
Gerogery				14	
Tabletop	24	53	10	9,382	
Albury	3o2	3,020	10	14,706	2 681
Camden	51	230	536	336	2,517
Tarago ...	10	1,843	187	11,972	366
Bungendore	13	681	292	20 018	216
Queanbeyan	74	708		15,936	184
Michelago	8	70		1,604	39
Cooma	116	943	51	43 919	1,320
Young	35	866		33 340	101
Koorawatha	7	10	2o	10,123	99
Coolac	50	511	80	5,284	53
Gundagai	330	3,853	1,295	55 115	5,36o
Temora	10	80		5,091	112
Old Junee				9 512	33
Coolaman		50		37,394	
Grong Grong	1			20,98o	
Narrandera	99	3,861	170	125 061	78
Yanko				22,817	
Whitton	8	470		49 084	
Darlington	23	253		91 082	
Bringagee	20			42,107	
Carathool	17	863	48	242,131	
Hay	130	3,287	125	335 756	78
Morundah	7	1 172	64	144,84o	
Jerilderie	5	2 927		206 912	50
Walla Walla				12 9o5	
Brocklesby				10,186	
Corowa	4	141		12,465	270
Sydenham		4	1		58
Rockdale		1			
Kogarah		3			
Hurstville		3	1		
Sutherland		50	1		20
Helensburgh	5				
Bellambi				1	
Corrimal					49
Wollongong	45	36		4	3
Unanderra		64	12		59
Dapto	18	31	3		223
Albion Park	28	106	31	10	127
Shellharbour	8	30	46		1,282
Kiama	1	79	4		83
Gerringong	13	78	40	2	1 607
Berry	240	73	90		3,035
Nowra	141	228	4		20
Marrickville					104
Canterbury					110
Ryde	4	11	2		185
Thornleigh		2			
Hornsby		5	6		11
Gordon		3	3		
Chatswood		2			
Milson's Point		1	1		
Parramatta	54	101	14		80(
Wentworthville		4	3		46
Seven Hills		1	5		9
Blacktown	8	1,522	20	117	36
Rooty Hill	10	123	169	183	2
Mt Druitt			2		
St Mary's	64	320	154	40	120
Kingswood	2				
Penrith	393	124	84	119	162
Emu Plains					60
Springwood	1	3			2
Linden			1		
Lawson	2	8		1	
Wentworth Falls		3		29	11
Katoomba	1	5			97
Blackheath		2		100	
Mount Victoria	20	244	90	8,016	113
Bell		6	1		
Eskbank	1				
Bowenfels	8			75	
Wallerawang	29	75	2o	4 893	
Tarana	50	98	250	13,810	2,874
Brewongle			14	7,223	
Raglan			21	149	
Kelso	76	211	18	26 033	53
Bathurst	50	151	3	2,729	183
Perth				2,800	1,022
Georges Plains				7,661	64
Wimbledon					45
Newbridge	31	11o	116	24 159	386
Blayney	75	110	292	37 121	30
Millthorpe		14		8,55o	1o6
Spring Hill			1	80	
Orange	144	507	242	22 642	188
Wyuna	17	61	19	3 955	240
Stuart Town				6,190	79
Mumbil	15			736	
Dripstone				1,252	
Wellington	146	899	57	23,698	97
Maryvale				1,248	80
Murrumbidgerie		1	1		
Dubbo	86	5,602	32	101,320	170
Narromine	69	256	22	28 370	33o
Trangie	94	4,441	483	78 644	
Nevertire	155	3,638	165	148,382	161
Nyngan	121	3,264	5o	47,936	331
Girilambone	21	78		9,178	
Coolabah				10,477	
Byrock	57	758		51,474	
Bourke	608	13,957		33,143	
Riverstone	26	19	28		718
Mulgrave	6	3	5		36
Windsor	13	3o	29		186
Clarendon		1	1		59
Richmond	23	52	126		106
Capertee	2			6,853	71
Rylestone	146	2,531	220	41,742	257
Mudgee	136	2,292	11o	55 736	93
Carcoar			1	2 371	
Lyndhurst				4,200	181
Woodstock	79	71	70	15,802	599
Cowra	112	2,486	56	32,016	1,867
Molong	51	269	48	5,037	18
Manildra				1,772	
Parkes	71	181		16,774	217
Forbes	86	8o6	72	95,311	306
Lue	5	340	82	16,327	
Cobar				5,46o	
Hawkesbury		7	3		
Gosford	9	9	1		
Ourimbah		1	1		36
Wyong	2	2	23		30
Morrisett	1	1	23		
Adamstown		2	2		
Newcastle	11	4			47
Bullock Island		17		530	
Hamilton		1			
Waratan	8	1	1	480	
Wallsend		2	1		
Hexham		1			21
Tarro					27
East Maitland	15	6	1	4	37
Morpeth		2		1	
West Maitland	243	577	128	2,235	7,367
Farley	156	6,240	561	3,010	213
Lochinvar	40	208	51	406	
Greta	1	1			22
Branxton	49	98	523	21	78
Whittingham	96	684	211	305	16
Singleton	346	2,9o4	832	1,82o	2,730
Glennies Creek				97	60
Ravensworth	10	1 913	163	2,988	15
Muswellbrook	295	6 018	608	8 162	1,360
Aberdeen	138	1,355	603	1 300	811
Scone	336	2,271	359	11,417	320
Wingen	10	4		864	
Blandford	5			74	20
Murrurundi	20	291	11	4 432	37
Willow Tree	26	2,014	27	64,824	
Quirindi	1o8	4,420	202	82,007	94
Werris Creek	1	152	4	7 206	
Currabubula		81		1 864	15
West Tamworth	181	1,197		7,746	1,083
Tamworth	13	1		24	
Walcha Road		521	3	3,417	48
Kentucky				2,883	
Uralla	7	989	1	2,495	29
Armidale	58	76	2	1,109	90
Guyra	19	219	4	396	49
Glencoe		274		10>	
Glen Innes	39	72		618	81
Deepwater	10	352	1	7,226	
Tenterfield	289	4 730		276	11
Jennings	948	8 293	6	36	2,905
Brecza	268	1,592	63	5>,209	30
Curlewis	18	66	28	13,612	19
Gunnedah	210	3,368	172	52 074	194
Boggabri	97	4,73o	161	59,847	
Narrabri	437	11,307	149	435,846	391
Lismore		43	5	35	1 551
Total year ending 30 June, 1896	13,041	164,974	16,790	4,040,108	86,102
Total year ending 30 June, 189o	13,102	145,9o0	19 803	4,008,824	82,631

APPENDIX XXIII.

STATEMENT of the number of Bales of **WOOL** forwarded on the New South Wales Government Railways, during the years **ending 30th June, 1895 and 1896.**

Stations.	Number of Bales.		Stations.	Number of Bales.		Stations.	Number of Bales.	
	1896.	1895.		1896.	1895.		1896.	1895.
Darling Harbour	9,070	5,809	Whitton	5,585	6,207	Mandurama	1,016	1,655
Newtown	5	.....	Darlington	3,522	2,766	Lyndhurst	1,045	991
Fairfield	79	.....	Bringagee	2,500	3,610	Woodstock	1,857	1,843
Liverpool	8,241	8,993	Carrathool	7,553	10,626	Cowra	10,400	12,689
Minto	8	15	Hay	16,239	10,836	Borenore	1,383	2,290
Campbelltown	3	6	Morundah	2,552	3,114	Molong	5,570	5,691
Menangle	12	2	Jerilderie	7,398	9,658	Manildra	997	1,020
Douglas Park	.....	13	Brocklesby	2,046	2,988	Parkes	10,331	12,851
Mittagong	172	196	Corowa	198	.....	Forbes	21,743	25,768
Bowral	.....	5	Kiama	2	.....	Hermidale	175	.....
Moss Vale	182	284	Parramatta	.....	1	Cobar	9,410	10,361
Exeter	.....	21	St. Mary's	1	3	Newcastle	12	92
Wingello	31	18	Penrith	31	104	Honeysuckle	138	.....
Marulan	1,066	931	Emu Plains	6,150	3,593	Morpeth	165	65
Towrang	1,596	818	Mount Victoria	84	190	West Maitland	2,116	3,013
Goulburn	4,921	6,396	Esk Bank	6	.....	Lochinvar	2	.....
Breadalbane	426	515	Bowenfels	136	219	Branxton	2	48
Razorback	8	15	Wallerawang	1,056	1,359	Whittingham	45	136
Gunning	2,915	3,106	Rydal	42	50	Singleton	174	220
Jerrawa	90	205	Tarana	490	598	Glennie's Creek	29	30
Yass Junction	2,453	3,289	Locksley	94	72	Ravensworth	297	380
Yass Town	2,124	1,818	Brewongle	438	547	Muswellbrook	7,085	8,100
Bowning	2,933	3,109	Raglan	146	169	Aberdeen	2,804	5,007
Binalong	3,494	4,165	Kelso	1,286	1,409	Scone	5,100	5,433
Galong	2,444	2,142	Bathurst	2,354	3,036	Wingen	451	469
Harden	1,690	1,704	Perth	1,361	1,346	Blandford	1,594	1,834
Murrumburrah	322	590	George's Plains	58	96	Murrurundi	235	251
Demondrille	533	478	Wimbledon	348	306	Ardglen	761	823
Wallendbeen	2,225	2,590	Newbridge	1,118	1,222	Willow Tree	3,015	3,815
Cootamundra	5,198	5,977	Blayney	558	518	Quirindi	7,856	9,499
Bethungra	1,106	1,304	Millthorpe	188	294	Werris Creek	523	617
Illabo	1,368	1,598	Spring Hill	353	315	Currabubula	1,536	2,713
Junee	3,965	4,429	Orange	1,118	1,152	West Tamworth	14,604	19,061
Harefield	530	566	Mullion Creek	732	823	Tamworth	892	749
Wagga Wagga	8,648	10,551	Kerr's Creek	124	66	Moonbi	1,138	1,421
Uranquinty	1,115	1,244	Warne	1,013	1,049	Woolbrook	590	522
The Rock	3,527	3,415	Stuart Town	381	493	Walcha Road	3,196	3,892
Yerong Creek	3,647	4,031	Mumbil	1,405	1,419	Kentucky	1,322	1,381
Henty	634	869	Dripstone	399	245	Uralla	6,490	7,472
Culcairn	4,862	6,237	Wellington	2,655	3,270	Armidale	4,103	5,525
Gerogery	136	105	Mary Vale	253	374	Black Mountain	149	182
Table Top	1,134	1,079	Geurie	565	511	Guyra	1,589	2,216
Albury	2,131	185	Murrumbidgerie	1,482	2,023	Ben Lomond	845	950
Camden	14	29	Dubbo	17,505	18,708	Glencoe	152	222
Tarago	778	709	Narramine	8,646	8,710	Glen Innes	8,201	11,638
Bungendore	2,205	2,140	Trangie	12,518	14,181	Deepwater	1,197	2,312
Queanbeyan	3,684	4,692	Nevertire	38,873	45,580	Tenterfield	414	280
Michelago	2,575	2,638	Nyngan	8,031	12,101	Jennings	111	106
Cooma	8,815	8,873	Girilambone	7,285	7,992	Breeza	2,449	2,498
Young	12,326	17,107	Coolabah	2,502	2,982	Curlewis	904	1,552
Coolac	1,396	1,346	Byrock	9,738	10,192	Gunnedah	6,653	8,136
Gundagai	5,548	5,182	Bourke	53,626	78,746	Boggabri	3,386	3,417
Temora	7,017	11,477	Riverstone	185	176	Baan Baa	472	553
Koorawatha	1,622	728	Windsor	.....	166	Narrabri	77,949	85,393
Old Junee	837	1,034	Piper's Flat	18	34			
Coolaman	2,552	3,562	Capertee	768	791			
Grong Grong	2,446	2,139	Rylstone	1,267	1,598			
Narrandera	17,739	18,481	Mudgee	18,493	20,266	Total	644,858	747,480
Yanko	1,387	1,577	Carcoar	725	861			

APPENDIX XXIV.

STATEMENT of COAL, COKE, and SHALE forwarded from the various Collieries during the years ending 30th June, 1895 and 1896.

Collieries.	1896.		1895.		Increase.		Decrease.	
	Tons.	Freight.	Tons.	Freight.	Tons.	Freight.	Tons.	Freight.
Coal and Coke.		£		£		£		£
A.A. Company	1,502	316	1,599	66	.....	250	97	.....
Anvil Creek	2,133	184	1,163	94	970	90	.....	.....
Anvil Creek New	663	61	775	58	.....	3	112	.....
Black Jack	875	243	484	127	391	116	.....	.....
Blackwall	1,933	637	1,118	540	815	97	.....	.....
Burwood West	.....	.....	327	14	.....	.....	327	14
Burwood No. 3	103,921	4,116	69,272	2,840	34,649	1,276	.....	.....
Co-operative	127,137	5,250	146,399	6,223	.....	.....	19,262	973
Curlewis	372	108	662	200	.....	.....	290	92
Denton Park	5,513	348	4,166	306	1,347	42	.....	.....
Dudley	16,951	637	.....	.....	16,951	637	.....	.....
Dulwich	3,079	643	1,983	490	1,096	153	.....	.....
East Maitland	4,568	324	108	11	4,460	313	.....	.....
Elamore	16,630	650	10,106	465	6,524	185	.....	.....
Ferndale	.....	.....	5,042	132	.....	.....	5,042	132
Font Hill (South Greta)	8,200	536	2,191	142	6,009	394	.....	.....
Greta	72,300	6,048	59,877	5,046	12,423	1,002	.....	.....
Greta East	62,472	3,751	68,603	4,620	.....	.....	6,131	869
Hetton	213,437	7,101	201,467	7,386	11,970	.....	.....	285
Hillside	688	29	738	31	.....	.....	50	2
Lambton	71,988	2,579	136,869	5,533	.....	.....	64,881	2,954
Lambton East	.....	.....	1,329	55	.....	.....	1,329	55
Lambton South New	24,051	914	41,039	1,657	.....	.....	16,988	743
Minmi (Duckenfield)	220,571	9,630	244,097	11,890	.....	.....	23,526	2,260
Muswellbrook	.....	.....	112	23	.....	.....	112	23
Newcastle	240,212	9,437	222,693	9,174	17,519	263	.....	.....
Northern Extended	48,267	2,408	35,024	2,012	13,243	396	.....	.....
Northumberland	5,417	315	1,177	74	4,240	241	.....	.....
Pacific Co-operative	101,145	4,946	89,594	4,682	11,551	264	.....	.....
Purified	5,025	1,011	14,459	1,068	.....	.....	9,434	57
Rix's Creek	8,209	6,845	9,346	3,967	.....	2,878	1,137	.....
Sneddon's (Wallsend)	34,027	1,357	25,670	1,048	8,357	309	.....	.....
West Maitland	139	27	.....	.....	139	27	.....	.....
Wallsend	351,443	14,041	332,611	13,720	18,832	321	.....	.....
Wallsend South	26,437	1,050	33,904	1,400	.....	.....	7,467	350
Wallsend West	82,499	3,683	57,901	2,834	24,598	849	.....	.....
Seaham	29,123	1,345	88,117	5,120	.....	.....	58,994	3,775
Waratah	54,272	2,017	39,595	1,585	14,677	432	.....	.....
Wickham and Bullock Island	132,358	3,225	222,417	5,616	.....	.....	90,059	2,391
Total, North	2,077,557	95,812	2,172,034	100,249	210,761	10,538	305,238	14,975
Austinmer	323	64	4,337	634	.....	.....	4,014	570
Bellambi	10,092	2,136	14,532	3,031	.....	.....	4,440	895
Bulli	10,222	2,085	7,017	2,538	3,205	.....	.....	453
Bong Bong	1,204	170	1,226	174	.....	.....	22	4
Box Vale	891	93	948	154	.....	.....	57	61
Carson's Siding	5,698	1,767	1,028	92	4,670	1,675	.....	.....
Corrimal	97,488	1,859	108,211	2,179	.....	.....	10,723	320
Cox's Siding	107	15	529	64	.....	.....	422	49
Irondale	1,548	384	3,105	737	.....	.....	1,557	353
Joadja	1,617	410	1,476	412	141	.....	.....	2
Lithgow Collieries	80,680	27,699	62,477	23,692	18,203	4,007	.....	.....
Metropolitan	131,646	17,702	118,684	15,441	12,962	2,261	.....	.....
Mount Kembla	8,088	4,755	4,826	2,283	3,262	2,472	.....	.....
Mount Kiera	87,564	255	67,903	450	19,661	.....	.....	195
Mount Pleasant	795	190	1,008	120	.....	70	213	.....
North's Siding	.....	.....	38	10	.....	.....	38	10
Portland	392	137	244	85	148	52	.....	.....
South Clifton	63,369	10,925	59,275	10,014	4,094	911	.....	.....
Total	501,724	70,646	456,864	62,110	66,346	11,448	21,486	2,912
Total, North	2,077,557	95,812	2,172,034	100,249	210,761	10,538	305,238	14,975
Shale.								
Capertee	8,650	4,132	5,468	2,271	3,182	1,861	.....	.....
Hartley Vale	10,002	3,381	13,523	4,569	.....	.....	3,521	1,188
Joadja	1,340	448	3,061	994	.....	.....	1,721	546
North's Siding	4,912	1,407	9,532	2,697	.....	.....	4,620	1,290
Total, Shale	24,904	9,368	31,584	10,531	3,182	1,861	9,862	3,024
Total, Coal	2,579,281	166,458	2,628,898	162,359	277,107	21,986	326,724	17,887
Grand Total, Coal, Coke, and Shale	2,604,185	175,826	2,660,482	172,890	280,289	23,847	336,586	20,911

APPENDIX XXV.

COAL EXPORTED FROM NEWCASTLE.

RETURN of the quantity of **COAL EXPORTED** from Newcastle to Foreign and Intercolonial Ports for the year ending 30th June, 1896, compared with the same period in 1895.

Countries.	1895-96.	1894-95.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.
Victoria	599,547	625,281	.....	25,734
New Zealand	134,922	159,106	.....	24,184
South Australia	173,011	144,484	28,527	.....
Tasmania	50,965	58,834	.....	7,869
Western Australia	71,257	41,280	29,977	.....
Fiji	2,600	6,125	.....	3,525
Queensland	21,859	20,468	1,391	.....
Total, Intercolonial	1,054,161	1,055,578		1,417
Foreign—				
Peru	28,840	25,488	3,352	.....
New Caledonia	11,519	5,504	6,015	.....
India	36,091	35,080	1,011	.....
United States	229,277	286,006	.....	56,729
Hong Kong	19,982	27,751	.....	7,769
Mauritius	4,790	17,771	.....	12,981
Philippine Islands	51,653	84,148	.....	32,495
Chili	326,838	267,032	59,806	.....
Sandwich Islands	52,142	40,368	11,774	.....
Java	6,781	34,961	.....	28,180
Mexico	12,040	14,919	.....	2,879
South Sea Islands	1,744	900	844	.....
Singapore	21,532	22,576	.....	1,044
Other Countries	41,797	30,571	11,226	.....
Total, Foreign	845,026	893,075		48,049
Grand Total (Intercolonial and Foreign)...	**1,899,187**	**1,948,653**		49,466

NUMBER of Tons and Value of Coal exported to Foreign and Intercolonial Ports for year ending 30th June, 1896.

1895-1896.		1894-1895.		Decrease.	
Tons.	Value.	Tons.	Value.	Tons.	Value.
	£		£		£
1,899,187	**669,822**	**1,948,653**	**703,562**	**49,466**	**33,740**

PORT OF NEWCASTLE.

Foreign and Intercolonial Shipping out of Newcastle.

FROM JUNE TO JUNE.

1895-1896.		1894-1895.		Decrease.	
No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
1,155	**1,383,962**	**1,243**	**1,446,300**	**88**	**62,338**

APPENDIX XXVI.

RETURN of REVENUE and EXPENDITURE of each Station for the year ending 30 June, 1896.

Stations.	No. of hands employed, including Station-masters.	Total Salaries and Wages Expenditure. 1896.	No. of Tickets issued. 1896.	Revenue from Tickets and Coaching Traffic. 1896.	GOODS. Out. Tons.	GOODS. In. Tons.	COAL. Out. Tons	COAL. In. Tons.	Other Minerals. Out. Tons.	Other Minerals. In. Tons.	WOOL. Out. Bales.	WOOL. In. Bales.	HAY, STRAW, AND CHAFF. Out. Trucks	HAY, STRAW, AND CHAFF. In. Trucks	Revenue from Goods and Live Stock. 1896.	Total Earnings, exclusive of Special Earnings. 1896.	Total Earnings, exclusive of Special Earnings. 1895.	Increase. 1896.	Decrease. 1896.	Stations.
		£ s. d.		£ s. d.																
Sydney—Bent-st.			3,652	154 5 8	.....	.....	.....	.....	....	....	....	....	..	..	.....	154 5 8	205 9 0	.....	51 3 4	Sydney--Bent-st.
,, Park st.	7	909 2 11	5,272	212 16 11½	.....	.....	.....	.....	....	....	....	....	..	..	.....	212 16 11½	253 9 4½	.....	40 12 5	,, Park-st
,, Elizabeth st.			13,168	511 13 4	.....	....	.....	.....	....	....	....	....	..	..	.....	511 13 4	596 7 0½	....	84 13 8½	,, Elizabeth st.
,, Central Office			35,676	87,755 11 0	.....	.....	.....	.....	....	....	....	....	..	..	.....	87,755 11 0	80,136 4 9	7,619 6 3	.....	,, Central Office
,, Redfern	303	33,161 10 10	1,714,968	239,907 11 1½	35,910	54,292	....	.....	87	...	.	....	1,976	8,178	32,830 10 10	272,738 1 11½	288,407 14 1½	.....	15,669 12 2	,, Redfern.
,, Darling Harbour	207	26,049 18 1	.. ....	.....	224,564	375,898	18,470	179,135	8,188	18,621	9,070	466,499	242	84	424,940 5 5	424,940 5 5	500,279 19 4	.	75,339 13 11	,, Darling Har.
Eveleigh	28	3,212 12 7	328,191	4,996 14 0½	215	225	58	109	20	15	....	.. ..	..	..	157 15 9	5,154 9 9½	5,132 10 6	21 19 3½	.....	Eveleigh.
Alexandria	2	314 12 6	.....	.....	6,602	15,651	10	9,459	5,229	804	....	197	..	4	4,250 0 0	4,250 0	4,094 17 6	155 2 6	....	Alexandria.
Macdonaldtown	9	1,055 15 10	89,961	1,452 3 5	.. ..	.....	.....	.....	....	..	....	.. ..	..	..	.....	1,452 3 5	1,565 0 2	.....	112 16 9	M'donaldtown.
Newtown	13	1,703 3 7	381,396	6,980 1 1	7,597	33,058	34	10,368	45	1,604	5	.. .	1	26	6,888 13 7	13,868 14 8	14,545 6 5	. ..	676 11 9	Newtown.
Stanmore	6	737 10 2	170,015	4,730 16 11	.. ..	. ..	.... ..	.....	..	..	....	....	..	.	.....	4,730 16 11	4,440 19 10	289 17 1	.. .	Stanmore.
Petersham	18	2,303 10 10	383,162	11,206 7 2½	2,402	16,345	16	10,062	199	2,289	.. ..	....	..	39	5,209 1 2	16,415 8 4½	17,711 15 4	. .. ...	1,296 6 11½	Petersham
Lewisham	8	1,014 0 10	205,522	7,288 9 9	.... .	.....	.....	.....	....	....	....	.. .	..	..	.....	7,288 9 9	7,086 1 7	202 8 2	. .. .. .	Lewisham.
Summer Hill	13	1,429 3 2	374,288	12,656 17 3	.....	3	.....	.....	....	..	....	....	..	..	3 7 7	12,660 4 10	12,535 10 6½	124 14 3½	.. ..	Summer Hill.
Ashfield	16	2,082 19 1	317,154	12,596 15 6½	343	9,873	7	5,252	16	1,911	....	....	2	71	2,367 17 0	14,964 12 6½	15,534 16 7	..... .	570 4 0½	Ashfield.
Croydon	10	1,097 18 0	168,904	6,989 8 0	.... .	. ..	.....	.....	....	....	....	....	..	..	.....	6,989 8 0	6,986 11 7½	2 16 4½	..... .	Croydon.
Burwood	13	1,886 18 0	240,983	10,925 14 2	13,423	14,911	597	7,029	....	6,566	....	....	1	168	3,269 5 10	14,195 0 0	14,908 11 8	.....	713 11 8	Burwood
Strathfield	27	3,282 6 3	237,231	15,566 9 10½	64	32	... ..	7	.. .	. .	...	.. .	..	..	24 3 10	15,590 13 8½	15,232 12 5½	358 1 3	.. ..	Strathfield.
Homebush	18	2,219 9 6	74,784	3,657 4 9	415	4,526	1	798	26	1,475	....	....	..	27	656 17 10	4,314 2 7	4,453 10 5	.....	139 7 10	Homebush.
Flemington	12	1,684 6 3	17,489	581 14 2	968	1,039	.....	6	....	901	....	....	..	1	261,402 9 1	261,984 3 3	242,638 8 9	19,345 14 6	.. ..	Flemington.
Rookwood	8	1,193 2 8	83,819	3,695 1 2	218	3,367	.....	555	20	739	....	....	1	27	508 9 3	4,213 10 5	4,522 9 8	. .....	318 19 3	Rookwood.
Auburn	8	1,053 5 6	92,630	4,210 9 2	18,769	7,884	25	9,628	....	919	....	....	..	10	9,646 8 6	13,856 17 8	10,509 4 7	3,347 13 1	.. ...	Auburn.
Clyde	2	290 8 2	33,436	1,081 1 10	.....	.....	.....	.....	....	....	....	....	..	..	.....	1,081 1 10	1,109 13 0	.. ..	20 11 2	Clyde.
Granville	21	2,709 19 10	132,415	5,843 16 2	23,450	30,419	19	8,452	213	2,985	. ..	80	1	123	14,382 18 5	20,226 14 7	23,463 9 11	.. .. .	3,236 15 4	Granville.
Merrylands	3	374 6 4	14,402	905 12 6	7,179	3,403	.....	3,250	40	2,224	....	....	..	9	2,184 19 4	3,090 11 10	3,829 19 3	. .	739 7 5	Merrylands.
Guildford	1	161 10 0	14,105	1,136 7 8	63	316	.....	56	....	....	....	....	..	..	82 17 8	1,219 5 4	1,216 13 6	2 11 10	. ....	Guildford.
Fairfield	4	449 7 0	21,861	1,889 9 4	9,668	2,438	.....	363	13	29	79	94	..	18	640 17 3	2,530 6 7	2,642 0 0	.. . .	111 13 5	Fairfield.
Canley Vale	1	153 18 4	5,474	614 2 8	321	388	.....	21	....	....	....	....	..	..	113 17 0	727 19 8	735 7 1	... .	7 7 5	Canley Vale.
Cabramatta	1	143 0 0	5,064	555 7 2	12,352	676	.....	.....	....	90	....	.. ..	1	10	126 12 11	682 0 1	764 11 2	.... .	82 11 1	Cabramatta.
Liverpool	11	1,159 10 2	31,358	3,202 1 7	25,573	10,330	.....	7,002	266	352	8,241	2,855	10	110	6,876 2 0	10,078 3 7	11,314 7 10	.. .	1,236 4 3	Liverpool.
Glenfield	..	27 6 0	1,269	133 2 3	257	14	.....	.....	....	....	....	....	..	..	21 13 3	154 15 6	241 6 7	.	86 11 1	Glenfield.
Ingleburn	4	345 16 9	3,098	682 11 9	5,192	609	.....	.....	....	....	....	....	..	13	762 10 5	1,445 2 2	1,434 12 9	10 9 5	....	Ingleburn.
Minto	2	248 14 2	3,119	567 16 5	3,310	1,195	.....	.....	....	....	8	3	..	31	925 19 1	1,493 15 6	1,362 11 7	131 3 11	.. ..	Minto.
Campbelltown	13	1,386 10 5	15,377	2,902 9 5	16,829	4,371	.....	108	....	....	3	....	11	94	1,470 1 11	4,372 11 4	4,391 6 4	... ..	18 15 0	Campbelltown.
Menangle	2	264 6 8	1,196	415 15 2	1,116	1,277	.....	9	....	....	12	....	2	43	475 16 3	891 11 5	823 15 2	67 16 3	....	Menangle.
Douglas Park	1	150 3 2	957	325 10 4	4,624	544	.....	.....	....	.	.. .	.. .	1	40	126 10 5	452 0 9	454 4 3	.. ...	2 3 6	Douglas Park.
Picton	16	1,720 0 5	4,448	1,510 8 7	4,391	2,429	.....	30	....	....	....	....	..	23	1,244 9 3	2,754 17 10	3,024 5 8	... . . .	269 7 10	Picton.
Thirlmere	4	337 3 4	1,495	337 11 6	2,911	717	.....	4	....	....	....	....	1	10	404 13 10	742 5 4	901 0 7	.. ..	158 15 3	Thirlmere.
Picton Lakes	3	264 3 11	419	65 0 9	430	74	.....	.....	....	....	....	....	..	..	12 11 5	77 12 2	81 1 5	....	3 9 3	Picton Lakes.
Balmoral	2	275 0 0	393	82 17 3	23	96	.....	.....	....	....	....	....	..	..	30 8 11	113 6 2	192 7 7	.....	79 1 5	Balmoral.
Hill Top	2	306 0 0	344	46 17 9	252	39	.....	.....	....	....	....	....	..	..	26 12 0	73 9 9	104 0 1	.....	30 10 4	Hill Top.
Colo Vale	2	297 3 6	420	104 13 5	78	67	.....	.....	....	....	....	....	..	..	47 4 10	151 18 3	168 9 4	.. .. .	16 11 1	Colo Vale.
Mittagong	11	858 5 6	6,505	1,281 17 8	2,650	2,224	3,848	78	857	27	172	....	8	27	2,988 14 11	4,270 12 7	4,347 18 6	.. . .	77 5 11	Mittagong.
Bowral	7	770 11 0	10,568	2,856 2 6	3,681	5,039	808	1,205	2,840	....	....	....	4	90	3,932 16 11	6,788 19 5	6,602 9 4	186 10 1	.....	Bowral.
Moss Vale	11	1,027 4 6	8,650	4,324 19 1	1,786	5,579	396	1,015	....	509	182	....	7	68	4,490 15 2	8,815 14 3	9,407 18 1½	.....	592 3 10½	Moss Vale.
Exeter	1	184 6 0	883	171 3 10	729	384	.....	.....	2	5	....	....	..	..	212 13 1	383 16 11	415 0 0	.....	31 3 1	Exeter.
Bundanoon	3	283 0 0	1,789	340 7 9	1,709	391	197	.....	1,505	....	....	....	..	..	345 3 5	685 11 2	669 15 0	15 16 2	.. .. ..	Bundanoon.
Wingello	3	283 10 0	987	219 12 10	1,086	255	.....	.....	6	...	31	....	..	..	95 9 9	315 2 7	645 18 2	.. .	330 15 7	Wingello.
Barber's Creek	6	467 11 10	2,042	648 11 3	2,622	676	.....	.....	254	....	1,066	....	15	8	576 0 10	1,224 12 1	1,256 0 10	.....	31 8 9	Barber's Creek
Marulan																				Marulan.
Towrang	2	259 6 1	1,643	212 12 9	925	576	.....	.....	....	....	1,596	878	2	..	412 12 4	625 5 1	433 6 0	186 19 1	.....	Towrang.
Goulburn	38	4,151 17 11	23,533	12,282 5 2	20,614	30,588	.....	5,630	2	1,584	4,921	58	98	413	35,230 1 8	47,512 6 10	45,988 0 7½	1,524 6 2½	.....	Goulburn.
Breadalbane	7	379 11 4	1,343	452 6 9	778	761	.....	.....	....	4	426	....	5	16	387 10 4	839 17 1	882 1 0	... .	42 3 11	Breadalbane.

APPENDIX XXVI—*continued.*

Stations.	No. of hands employed, including Station masters.	Total Salaries and Wages Expenditure. 1896.	No. of Tickets issued. 1866.	Revenue from Tickets and Coaching Traffic. 1896.	GOODS. Out. Tons.	GOODS. In. Tons.	COAL. Out. Tons.	COAL. In Tons	Other Minerals. Out. Tons.	Other Minerals. In. Tons.	WOOL. Out. Bales.	WOOL. In. Bales.	HAY, STRAW, AND CHAFF. Out Trucks	HAY, STRAW, AND CHAFF. In. Trucks	Revenue from Goods and Live Stock. 1896.	Total Earnings, exclusive of Special Earnings. 1896.	Total Earnings, exclusive of Special Earnings. 1895.	Increase. 1896.	Decrease. 1896.	Stations.
		£ s. d.		£ s. d.											£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Razorback	3	283 0 0	311	74 7 3	8	24	.	. .	....	. .	8	...	.	.	3 6 0	77 13 3	58 19 3	18 14 0	. . ..	Razorback.
Gunning	5	585 18 0	2,278	1,062 8 5	1,395	1,683	.	. ..	....	..	2,915	24	1	29	2,051 5 4	3,113 13 9	2,851 1 9	262 12 0	.....	Gunning.
Jerrawa	6	315 13 8	354	98 11 10	101	52	. .	.	.	.	90	....	.	.	34 10 8	133 2 6	112 0 0	21 2 6	.. ..	Jerrawa.
Yass Junction	6	433 3 3	2,105	1,398 11 9	890	1,434	.....	47	92		2,452	654	3	8	1,219 19 8	2,618 11 5	2,434 19 6	183 11 11	.....	Yass Junction.
Yass Township	2	227 19 9	8,035	1,783 6 5	997	1,868	.	214	2	2	2,124	1	1	25	4,281 17 8	6,065 4 1	5,983 4 10	81 19 3	... .	Yass Township.
Bowning	4	441 5 0	964	350 11 8	923	447	.....	...	40		2,933	.. .	5	1	644 5 10	994 17 6	968 18 6	25 19 0	....	Bowning
Binalong	6	500 8 5	1,583	1,039 1 6	1,041	1,155	.			.	3,404	.	32	1	2,364 8 1	3,403 9 7	3,727 3 5	. ..	323 13 10	Binalong.
Galong	3	297 0 0	778	277 0 10	2,287	497	.. ...	.	19		2,444	...	107	.	291 2 5	568 3 3	580 13 4	. ...	12 10 1	Galong.
Cunningar Harden	11	1,184 9 0	6,250	3,164 3 8	822	1,417	.....	26	. .	5	1,600	....	55	..	2,160 8 5	5,324 12 1	5,067 3 0½	257 9 0½	... .	Cunningar. Harden.
Murrumburrah	4	350 12 0	3,780	1,072 12 2	6,497	7,649	.....	21	....	9	322	3	61	14	6,540 2 6	7,612 14 8	8,989 3 8	.. . .	1,376 9 0	Murrumburrah.
Demondrille . . .	3	290 17 3	371	70 16 5	1,309	184	.....	.....	..	. ..	533	.. .	81	1	44 0 3	114 16 8	129 15 10	.....	14 19 2	Demondrille.
Nubba Wallendbeen	9	569 2 8	1,713	529 12 0	2,171	561	. . .	7	28	.	2,225		82	2	593 17 5	1,123 9 5	1,478 9 0	..... .	354 19 7	Nubba. Wallendbeen.
Cootamundra	19	1,215 2 11	17,237	6,929 11 11½	9,644	8,281	.	146	99	207	5,198	53	223	21	10,915 12 5	17,845 4 4½	18,649 4 8½	....	804 0 4½	Cootamundra.
Bethungra	7	423 16 6	1,618	456 1 11	1,321	819	. . .	..	30	....	1,106	.	9	1	360 16 5	816 18 4	1,678 2 5	.... ..	861 4 1	Bethungra.
Illabo	1	189 8 6	814	196 17 4	1,588	203	.....		6	.	1,368	1	37	..	144 15 5	341 12 9	322 15 6	18 17 3	. .....	Illabo.
Junee . . .	25	2,336 15 3	7,413	5,654 7 7½	2,765	3,595	1	189	31	167	3,965	....	122	20	5,031 4 0	10,685 11 7½	10,698 1 8½	.....	12 10 1	Junee.
Harefield . .	3	214 3 6	362	89 2 8	1,983	113	.. ..	.	.	..	530	. ..	241	.	103 6 1	183 8 9	176 7 0	7 1 9	....	Harefield.
Bomen .	3	171 4 0	348	161 10 6	1,658	102		6			.		184	1	210 11 8	372 2 2	269 16 11	102 5 3	.....	Bomen.
Wagga Wagga ..	14	1,200 14 0	10,507	7,118 17 2	15,848	13,315	6	875	161	10	8,648	869	665	25	20,522 10 8	27,641 7 10	32,403 13 9½	..... .	4,762 5 11½	Wagga Wagga
Uranquinty	2	161 10 0	1,090	222 7 5½	2,576	228	.....	. . .	....	. .	1,115	....	125	..	75 0 0	297 7 5½	306 5 5	... .	8 17 11½	Uranquinty.
The Rock	5	404 8 0	2,180	674 9 2	2,630	801	.....	. . .	..	....	3,527	.	54	8	789 19 4	1,455 8 6	1,266 2 3	189 6 3	.....	The Rock.
Yerong Creek . .	3	230 16 3	1,593	657 3 2½	2,387	583	.. ..	.	..	....	3,647	...	61	1	526 2 2	1,183 5 4½	1,418 6 6	. ..	235 1 1½	Yerong Creek
Henty	1	180 0 0	1,408	574 9 8	2,569	770	.... .	13	.	.. .	634	.. .	3	1	849 4 9	1,423 14 5	1,232 10 1	191 4 4	..... .	Henty.
Culcairn	5	445 12 1	3,009	1,392 14 9	3,423	1,046					4,862		75	1	1,320 10 10	2,713 5 7	2,613 11 7	99 14 0	. . ..	Culcairn.
Gerogery	10	480 3 11	917	247 9 0	1,507	214	6	6	.. .	..	136	....	72	.	158 3 10	405 12 10	454 6 8	.... .	48 13 10	Gerogery.
Table Top	2	165 18 11	487	252 6 0	469	155	. ..	.. .	. .	. . .	1,134	..	11	1	178 14 10	431 0 10	573 16 1	. .. ..	142 15 3	Table Top.
Albury	25	2,398 17 10	16,613	10,212 1 6¾	11,395	17,195	... .	675	5	1,504	2,131	13,361	8	57	13,114 5 8	23,326 7 2¾	23,291 0 8½	35 6 6½	.....	Albury.
Camden	2	267 7 0	6,753	1,519 9 7	3,769	3,485	. ....	428	.. .	..	14	12	8	103	1,653 9 8	3,172 19 3	3,190 0 9	. ..	17 1 6	Camden.
Tarago	7	437 11 0	2,703	1,800 11 9	1,423	3,261	. . .	0	223	21	778	.	9	107	1,442 0 2	3,242 11 11	3,105 3 10	137 8 1	.. ..	Tarago.
Bungendore ...	8	335 0 8	1,765	1,449 18 6	2,055	2,209	. .	3,325	1 275	.	2,205		.	84	4,850 16 6	6,300 15 0	4,736 15 1	1,563 19 11	. ....	Bungendore.
Queanbeyan .. .	11	478 16 0	1,629	1,539 8 7	1,249	2,141	.. .	199	.	...	3,681	460	7	52	2,659 11 0	4,198 19 7	4,387 17 5	....	188 17 10	Queanbeyan.
Michelago	7	221 2 8	582	460 8 4	1,107	937	.....	.....	20	.	2,575	240	61	6	334 19 11	795 8 3	897 5 7	... ..	101 17 4	Michelago.
Cooma	8	516 5 6	2,598	4,015 18 0	2,159	4,418	. . .	18	4		8,815	1	5	78	7,297 16 5	11,313 14 5	10,780 4 6	533 9 11	.....	Cooma.
Young	21	758 19 6	8,603	4,251 10 4½	8,528	10,111	. . .	598	10	51	12,326	10	56	4	13,368 16 11	17,620 7 3½	16,421 7 0	1,199 0 3½	.....	Young.
Koorawatha	5	213 1 3	912	320 5 9	1,269	555	.....	.... .	..	. .	1,622	.	23	5	309 13 10	629 19 7	574 7 8	55 11 11	..... .	Koorawatha.
Coolac	9	322 0 11	1,673	558 18 5	4,351	918	.. .	.	3,313		1,396		1	1	846 2 10	1,405 1 3	1,133 5 6	271 15 9	... . .	Coolac.
Gundagai	4	435 13 7	3,563	3,847 15 1	13,226	5,183	.....	19	1 691	18	5,548	. .	.	19	12,943 13 9	16,791 8 10	13,820 6 8½	2,971 2 1½	. ...	Gundagai.
Temora	5	507 3 0	4,623	4,677 19 1	8,393	7,558	.... .	19	3,031	. ..	7,017	....	27	167	16,035 9 5	20,763 8 6	19,960 1 10	803 6 8	... .	Temora.
Old Junee	4	216 14 6	737	205 4 7	7,525	735	..	8	..	..	837	..	498	..	785 1 11	990 6 6	676 17 10	313 8 8	... .	Old Junee,
Coolaman	6	326 17 2	2,187	1,322 8 7	9,145	2,004	.. .	26	2	6	2,552	..	229	12	3,176 13 10	4,499 2 5	3,719 4 1	779 18 4	....	Coolaman.
Grong Grong	1	184 0 10	2,604	876 14 8	2,471	635	.....		13	. .	2,446	.	43	.	628 15 2	1,505 9 10	1,344 7 6	161 2 4	....	Grong Grong.
Narandera	10	866 9 8	5,697	5,501 3 7½	15,417	7,067	6	119	2,308		17,739	2,485	210	97	12,265 12 10	17,766 16 5½	17,042 1 1½	724 15 4	... .. .	Narrandera.
Yanko	1	160 16 8	215	91 17 7	833	308	.	.	5	.	1,587		66		354 8 8	446 6 3	553 12 1	. . . .	107 5 10	Yanko.
Whitton..... . ..	4	277 14 3	1,543	1,482 2 4	1,683	1,131	. . ..	.			5,585	..	5	11	1,988 19 5	3,471 1 9	4,305 0 1	.....	833 18 4	Whitton.
Darlington	1	134 11 8	576	873 5 5	2,068	511	.....	....	...	....	3,522	2	..	3	790 9 11	1,663 15 4	1,799 6 3	. .. .	135 10 11	Darlington.
Bringagee	2	130 0 0	506	736 10 9½	561	424	. .	6		..	2,500	.. .	..	2	1,963 17 0	2,700 7 9½	3,124 5 9	. . .	423 17 11½	Bringagee.
Carrathool	3	272 17 0	1,975	1,897 14 3½	2,479	3,619	.. ..	33	.. .	378	7,553	.. .	18	15	6,738 0 0	8,635 14 3½	6,650 12 0	1,985 2 3½	.....	Carrathool.
Hay	5	577 19 11	3,080	4,760 5 1	5,145	6,088	.	519	.	4	16,239	871	21	83	14,399 1 4	19,159 6 5	18,539 19 1½	619 7 3½	.....	Hay.
Morundah	3	140 0 0	1,870	977 14 8	4,069	2,344	.....	12	....	1,597	2,552	....	151	3	1,198 2 10	2,175 17 6	2,284 6 4½	.. . . ..	108 8 10½	Morundah.
Jerilderie	3	294 0 10	1,171	1,622 5 5½	15,783	6,683	.....	86	....	422	7,398	....	100	6	8,682 14 3	10,304 19 8½	9,896 10 2½	408 9 6	.....	Jerilderie.
Walla Walla	1	62 7 0	129	81 12 11	3,121	249	.....	6	13	....	.. .	.	29	5	191 8 9	273 1 8	.. ..	273 1 8	.....	Walla Walla.
Brocklesby	1	105 0 0	417	201 18 1	4,037	496	.....	.....	....	. .	2,046	.	1	1	149 7 1	351 5 2	308 15 11	42 9 3	.....	Brocklesby.
Corowa	3	264 7 6	1,173	879 17 9	9,116	1,007	.....	.....	....	....	198	2,626	2	4	2,045 4 2	2,925 1 11	3,004 1 6	.....	78 19 7	Corowa.
Erskineville	5	611 13 9	138,842	2,594 7 0	.....	1	.....	.....	....	..	....	....	..	..	0 9 2	2,594 16 2	2,562 11 10¾	32 4 3¼	....	Erskineville.

APPENDIX XXVI—*continued.*

Stations.	No. of hands employed including Station-masters.	Total Salaries and Wages Expenditure. 1896.	No. of Tickets issued. 1896.	Revenue from Tickets and Coaching Traffic. 1896.	GOODS. Out. Tons.	GOODS. In. Tons.	COAL. Out. Tons.	COAL. In. Tons.	Other Minerals. Out. Tons.	Other Minerals. In. Tons.	WOOL. Out. Bales.	WOOL. In. Bales	HAY, STRAW, AND CHAFF. Out. Trucks	HAY, STRAW, AND CHAFF. In. Trucks	Revenue from Goods and Live Stock. 1896.	Total Earnings, exclusive of Special Earnings. 1896.	1895.	Increase. 1896.	Decrease. 1896.	Stations.
		£ s. d.		£ s. d.											£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
St. Peter's	7	754 2 3	158,648	2,081 13 6½	5	5									5 12 5	2,987 5 11½	2,816 15 0	170 10 11½		St Peter's.
Sydenham	17	1,715 9 0	193,288	4,855 8 6½	3,112	6,470	719	31,623	65	3,195				1	5,786 18 7	10,642 7 1½	9,638 4 1½	1,004 3 0		Sydenham.
Tempe	7	682 13 9	50,943	1,766 18 6	47	1,321	19	640	30	968				4	81 15 8	1,848 14 2	2,201 8 7		352 14 5	Tempe.
Arncliffe	7	907 16 10	110,578	4,291 6 5½	269	3,323		933	99	1,451				3	338 13 3	4,629 19 8½	5,588 13 3½		958 13 7	Arncliffe.
Rockdale	9	769 12 4	171,082	7,396 4 5	80	3,962	7	1,184	7	355				21	670 19 8	8,067 4 1	8,152 10 2		85 6 1	Rockdale.
Kogarah	8	937 18 7	119,499	6,771 17 0	57	3,429		883		89				13	395 5 6	7,167 2 6	7,061 18 4	105 4 2		Kogarah.
Carlton	4	555 3 9	47,013	2,452 12 11												2,452 12 11	2,275 18 0	176 14 11		Carlton.
Hurstville	12	1,387 15 1	83,102	4,814 1 3	13,767	4,303	12	2,048		564				69	1,497 17 3	6 311 18 6	6,026 11 0	285 7 6		Hurstville
Penshurst	3	232 3 10	18,046	1,282 9 11		14									3 0 4	1,285 10 3	1,225 9 2	60 1 1		Penshurst.
Oatley	2	130 0 0	7,461	492 0 2	142	57									8 1 5	500 1 7	444 6 7	55 15 0		Oatley.
Como	3	356 12 8	8,559	472 0 9	17	74									29 4 11	501 5 8	355 1 9	146 3 11		Como.
Sutherland	4	430 2 9	17,029	1,149 10 2	2,643	1,702		125	5	14				8	295 15 8	1,445 5 10	1,481 7 0		36 1 2	Sutherland.
Heathcote	2	147 1 10	1,745	143 8 4	983	86			693						27 3 8	170 12 0	180 8 5		9 16 5	Heathcote.
Waterfall	4	481 7 0	1,093	130 18 3	59	162			12						31 18 7	162 16 10	125 12 3	37 4 7		Waterfall.
Helensburgh	4	543 16 10	10,444	1,432 4 3	2,232	6,671	131,646		9					8	649 10 5	2,081 14 8	1,697 11 9	384 2 11		Helensburgh
Otford	2	293 9 6	2,981	315 19 0	471	139		6							46 1 1	362 0 1	337 9 5	24 10 8		Otford.
Clifton	2	163 4 0	2,747	307 0 1	8	126									78 18 3	385 18 4	422 9 0		36 10 8	Clifton.
South Clifton	7	435 19 0	2,901	306 18 8	1,137	759	63,692	131						3	313 16 10	620 15 6	549 17 7	70 17 11		South Clifton.
Thirroul	1	109 4 0	3,016	277 11 3	308	232							7		135 10 8	413 1 11	312 17 5	100 4 6		Thirroul.
Bulli	4	544 14 4	10,272	1,384 12 7	2,746	3,125	10,222	59	314	58				15	1,366 11 4	2,751 3 11	2,282 7 10	468 16 1		Bulli.
Bellambi	1	153 13 0	3,632	413 15 4	169	1,084	10,092	21	21	21				6	346 4 5	759 19 9	603 5 6	156 14 3		Bellambi.
Coniumal	1	163 18 0	3,362	359 12 10	803	1,133	5,477	136		127			1	11	1,975 4 7	2,334 17 5	1,829 6 7	505 10 10		Coniumal.
Wollongong	18	1,657 7 4	18,713	3,739 1 10	1,199	6,609	8,056	4,150		508				62	2,826 3 2	6,565 5 0	6,474 10 5	90 14 7		Wollongong.
Unanderra	3	163 0 0	3,679	533 11 10	558	572		24							238 6 1	771 17 11	841 14 9		69 16 10	Unanderra.
Dapto	7	276 5 6	6,369	1,072 13 0	2,362	6,784		312		311				1	2,969 8 4	4,042 1 4	843 8 10	3,198 12 6		Dapto.
Albion Park	3	267 8 0	3,580	785 19 3	4,483	1,959		95	64					1	724 13 7	1,510 12 10	1,453 1 1	57 11 9		Albion Park.
Shellharbour	4	115 14 3	2,635	537 2 4	1,681	596	6	662	273				1	5	413 19 3	951 1 7	900 7 8	50 13 11		Shellharbour
Kiama	5	397 5 10	8,846	2,264 13 11	5,426	2,703	18	1,297	907	18				3	890 18 2	3,155 12 1	3,205 0 3		49 8 2	Kiama.
Gerringong	2	135 4 0	4,949	607 14 10	803	1,063		122		51	2				584 19 9	1,192 14 7	1,304 0 10		111 6 3	Gerringong.
Berry	6	172 9 10	7,240	1,644 10 6	3,037	1,887		651		59				3	1,540 3 0	3,184 13 6	2,540 16 0	643 17 6		Berry.
Nowra	2	263 2 1	8,539	2,991 6 0	2,301	1,162		548	78	86				50	883 19 8	3,880 5 8	4,098 13 4		218 7 8	Nowra.
Marrickville	3	234 18 6	47,950	2,107 10 8½	1,103	220		85		12				1	36 0 5	2,143 11 1½	726 18 3	1,416 12 10½		Marrickville.
Canterbury	1	105 0 6	20,934	729 12 5	132	394		352		23					49 10 10	779 3 3	382 3 9	396 19 6		Canterbury.
Belmore	1	104 16 6	6,172	431 18 7	3,115	96		13	38	24					0 10 1	432 8 8	242 1 9	190 6 11		Belmore.
Harris Park	2	301 2 6	37,282	2,103 9 7												2,103 9 7	2,068 6 4	35 3 3		Harris Park.
Parramatta	16	2,348 10 5	203,341	14,289 12 9	6,504	16,525	20	6,480	477	873		22	10	529	4,948 5 4	19,237 18 1	21,469 17 9		2,231 19 8	Parramatta.
Wentworthville	2	297 17 6	5,575	374 10 5	1,309	434		36	610					4	161 10 1	536 0 6	697 15 3		161 14 9	Wentworthville
Seven Hills	4	617 3 6	8,395	716 4 4	3,673	1,763		14		106				13	344 4 10	1,060 9 2	1,171 1 11		110 12 9	Seven Hills.
Blacktown	6	971 19 3	9,837	978 7 1	11,582	984		26		137			1	2	7,127 1 3	8,105 8 4	13,881 11 1		5,776 2 9	Blacktown.
Rooty Hill	4	549 18 4	7,265	1,098 8 1	17,764	2,600		17		365			3	17	580 19 1	1,679 7 2	1,637 9 1	41 18 1		Rooty Hill.
Mount Druitt	1	130 0 0	2,270	368 3 2	430	244							1	1	951 8 4	1,319 11 6	5,418 1 1		4,098 9 7	Mount Druitt.
St. Mary's	4	569 5 0	7,263	1,171 13 8	21,721	5,563	6	746		9	1		13	40	1,935 17 10	3,107 11 6	2,862 19 2	244 12 4		St. Mary's.
Kingswood	3	364 17 4	1,146	194 14 5	6,665	388		37		64				9	203 19 8	398 14 1	334 13 5	64 0 8		Kingswood.
Penrith	24	3,097 19 0	16,063	3,673 17 11	3,521	5,025		1,121		326	31	31	44	123	2,505 8 6	6,179 6 5	6,007 8 5	171 18 0		Penrith.
Emu Plains	4	522 5 9	2,046	413 2 1	16,560	2,274		764	15,333		6,150	,4	2	7	1,213 10 2	1,626 12 3	1,698 10 1		71 17 10	Emu Plains.
Glenbrook	4	326 1 0	973	125 16 0	29	101		8							19 4 3	145 0 3	211 14 10		66 14 7	Glenbrook.
Springwood	7	421 3 2	3,785	806 17 6	231	1,355		117		341				11	495 15 1	1,302 12 7	1,409 5 9		106 13 2	Springwood
Linden	3	287 0 0	1,900	379 17 6	165	952		42	102	242					257 13 8	637 11 2	177 15 2	459 16 0		Linden.
Lawson	4	444 0 6	5,955	723 1 11	84	952		156	31	52				4	513 1 10	1,236 3 9	931 13 11	304 9 10		Lawson
Wentworth Falls	4	429 3 0	3,077	544 16 7	234	1,279		189	176	6				6	414 4 3	959 0 10	970 18 6		11 17 8	Wentw'rth Falls
Katoomba	8	851 16 0	10,190	1,957 2 11	819	3,587	4,912	801	253	17			1	50	3,433 9 0	5,390 11 11	6,419 16 11		1,029 5 0	Katoomba.
Blackheath	6	527 14 5	5,170	804 16 1	230	1,822		360		13				24	1,095 1 3	1,899 17 4	1,931 18 6		32 1 2	Blackheath.
Mount Victoria	8	861 1 3	5,248	2,239 6 1	202	963		283	25	201	84			17	624 10 0	2,863 16 1	2,522 1 8	341 14 5		Mount Victoria.
Hartley Vale	2	140 0 0	931	277 3 0	1,728	963	10,002	113						6	5,442 4 6	5,719 7 6	6,901 15 8		1,182 8 2	Hartley Vale.
Bell	3	412 4 0	422	134 1 11	110	138		6	22					2	119 18 3	254 0 2	340 11 9		86 11 7	Bell.

APPENDIX XXVI—*continued.*

Stations	No of hands employed including Station masters	Total Salaries and Wages Expenditure 1896.	No of Tickets issued 1896.	Revenue from Tickets and Coaching Traffic. 1896.	GOODS. Out Tons	GOODS. In Tons	COAL Out Tons	COAL In Tons	Other Minerals Out Tons	Other Minerals In Tons	WOOL Out Bales	WOOL In Bales	HAY, STRAW, AND CHAFF. Out Trucks	HAY, STRAW, AND CHAFF. In Trucks	Revenue from Goods and Live Stock. 1896.	Total Earnings, exclusive of Special Earnings 1896.	Total Earnings, exclusive of Special Earnings 1895.	Increase 1896.	Decrease 1896.	Stations.
		£ s d		£ s d											£ s d	£ s d	£ s d	£ s d	£ s d	
Clarence	3	355 4 7	472	85 13 3	533	310	7	45		28				5	84 10 7	170 3 10	112 2 7	58 1 3		Clarence
Zig Zag	5	634 0 9	90	15 11 10												15 11 10	16 3 0		0 11 2	Zig Zag
Eskbank	22	2,674 14 6	4,322	1,617 14 4	6,064	7,649	77,212	3 372	277	907	6			111	14,694 10 10	16,312 5 2	8,965 0 8	7,347 4 6		Eskbank.
Lithgow	3	288 1 7	2,559	944 14 2												944 14 2	1,020 1 4		75 7 2	Lithgow
Bowenfels	5	577 7 0	1,020	383 15 0	410	549	3,468	47	116		136	318	1	8	620 19 0	1 004 14 0	1,226 14 8		222 0 8	Bowenfels
Wallerawang	10	1,291 16 2	5,857	1,862 13 5	9,553	1,075	7,588	65	121		1,056	1	1	4	2,034 13 0	3,897 6 5	3,342 10 9	554 15 8		Wallerawang
Rydal	5	586 11 4	1,525	434 1 1	859	332		57	10		42		31	2	350 6 5	784 7 6	1,086 1 0		301 13 6	Rydal
Tarana	4	482 4 8	1,677	669 7 3	1,066	698	51	83	110		490		42	6	803 16 4	1,473 3 7	1,365 15 4	107 8 3		Tarana
Locksley	3	285 0 0	1 913	501 1 5	917	489		56	7		94		34	31	158 16 8	659 18 1	197 14 6	462 3 7		Locksley
Brewongle	4	437 14 9	1,665	337 2 7	1,856	454		117	7		438		278	11	428 3 6	765 6 1	543 1 2	222 4 11		Brewongle
Raglan	4	435 12 4	625	128 2 1	852	136		14	2		146		130		90 0 1	218 2 2	240 7 1		22 4 11	Raglan
Kelso	4	453 16 2	681	469 11 5	2,642	1,896	4	293	19		1,286		365	4	2,666 18 2	3,136 9 7	3,1 6 6 6	10 3 1		Kelso
Bathurst	28	3,462 18 10	19,183	10,619 0 6	10,614	19,307	34	11 145	242	177	2,354	383	192	46	25,011 3 8	35,630 4 2	38,026 0 9		2,395 16 7	Bathurst
Perth	6	326 5 2	2,853	440 8 5	3,909	1,127		56	826	10	1,361		340	24	1,144 3 1	1,584 11 6	1,334 8 10	250 2 8		Perth
George's Plains	5	391 3 2	1,827	316 6 3	1,387	93			9		58		222	1	80 1 9	396 8 0	356 12 4	40 15 8		George's Plains.
Wimbledon	3	309 4 0	946	167 12 4	595	101					348		74		76 13 7	244 5 11	239 5 9	5 0 2		Wimbledon.
Newbridge	6	499 4 5	3,890	1,260 18 1	2,335	1,463		13	14	8	1,118		224	2	1,991 4 10	3,252 2 11	3,179 9 6	72 13 5		Newbridge
Blayney	14	1 119 15 8	6 940	2,931 2 0	3 821	2 057	153	2 094	17	12	958		268	4	2,563 8 1	5,494 10 1	5,379 17 7½	114 12 5½		Blayney
Millthorpe	10	636 11 9	4,357	1,026 10 10	8,868	1,869	7	439	57	87	188		688	3	2,189 15 3	3,216 6 1	3,414 10 9		198 4 8	Millthorpe
Spring Hill	10	495 5 9	3,190	578 10 4	4,896	1,807		5 460	442	65	353		403	5	4,095 0 11	4,673 11 3	3,481 2 8	1,192 8 7		Spring Hill
Orange	23	2,306 12 11	19,905	9,604 13 0	16,664	18,066	5	3 641	35	510	1,118	6	793	218	22,403 1 6	32,007 14 6	27,375 13 0	4,632 1 6		Orange
Mullion Creek	5	324 12 0	837	139 14 8	871	192					732		20		64 13 6	204 8 2	253 1 9		48 13 7	Mullion Creek
Kerr's Creek	3	280 0 0	626	151 10 5	377	83			22		124				61 16 10	213 7 3	135 15 9	77 11 6		Kerr's Creek
Warne	3	277 3 4	1,552	445 9 7	1,430	335					1,013		2	1	281 8 11	726 18 6	543 4 9	183 13 9		Warne
Stuart Town	4	309 14 10	2,524	830 6 10	153	1,213			22	25	331			5	1,632 11 0	2,462 17 10	1,687 15 7	775 2 3		Stuart Town.
Mumbil	3	208 4 0	1 266	277 1 5	629	303					1,405			2	383 13 2	660 14 7	597 4 7	63 10 0		Mumbil.
Dripstone	1	140 0 0	861	225 16 4	1,528	185					399		151		150 13 8	376 10 0	309 2 3	67 7 9		Dripstone
Wellington	19	947 12 4	5 986	4,227 9 10	5,915	5,918		64	142		2,645	7	286	21	10,149 12 6	14,377 2 4	12,964 4 6	1,412 17 10		Wellington
Mary Vale	6	343 0 7	1,112	208 10 3	2,748	216		4			253		386		265 9 7	473 19 10	466 16 10	7 3 0		Mary Vale
Geurie	2	239 13 10	2,209	571 2 7	1,572	825		63	6	82	565		60	11	775 11 3	1,346 13 10	556 0 8	790 13 2		Geurie
Murrumbidgerie	4	296 9 0	2 051	494 8 6	1,125	501			6	6	1,482		10	19	320 0 11	814 9 5	765 3 5	49 6 0		Murrumbidgerie
Dubbo	22	2,152 17 7	11 576	9,479 3 8	10,156	9,420	8	879	92		17,505	1,790	346	44	23,267 6 11	32,746 10 7	33,537 5 11½		790 15 4½	Dubbo
Narromine	6	467 2 4	3,414	1,864 5 4	4,536	1,795		14			8,646	74	168	15	3,541 17 6	5,406 2 10	5,123 9 2	282 13 8		Narromine
Trangie	3	311 7 9	2,400	1,873 19 8½	4 619	2,068	3	5			12,518		3	32	3,795 16 1	5,669 15 9½	5,045 2 5	624 13 4½		Trangie
Nevertire	6	657 19 1	4 030	5,518 19 1	7,610	5,713		19	2	239	38,873		3	126	16,836 16 6	22,355 15 7	22,270 13 9	85 1 10		Nevertire.
Nyngan	13	944 13 8	5 421	5,069 5 9	5 212	4,138		69	178	81	8 031	472	18	105	9,857 0 3	14,926 6 0	17,177 14 9		2 251 8 9	Nyngan
Girilambone	3	209 10 8	670	580 11 5	1,299	830			6		7,285		1	20	1,330 6 2	1,910 17 7	2,033 10 0		122 12 5	Girilambone.
Coolabah	2	180 0 0	717	764 2 2	1,318	577			426		2,502	3		7	981 11 0	1,745 13 2	1,358 0 9	387 12 5		Coolabah
Byrock	5	303 13 4	2,080	3,057 9 7	7,239	1,815			2,686		9,738			60	3 013 16 2	6,071 5 9	6,686 8 0		615 2 3	Byrock
Bourke	14	1,323 15 3	6 023	11,263 9 4½	11,607	23,394		388		2,903	53,626	831	2	619	49,966 8 9	61,229 18 1½	67,958 6 5		6,728 8 3½	Bourke
Riverstone	3	505 19 8	7,709	1,099 10 6	33,171	2,633		1,311	56	12	185			11	48,847 0 7	49,946 11 1	38,675 8 0	11,271 3 1		Riverstone
Mulgrave	1	164 15 0	1,575	299 15 1	16,029	612				227			216	3	302 7 5	602 2 6	470 17 8	131 4 10		Mulgrave
Windsor	5	426 12 9	10,607	2,158 9 6	4,687	4,366		853		495			322	37	1,788 1 8	3,946 11 2	3,950 0 11		3 9 9	Windsor
Clarendon	1	180 0 0	627	100 14 4	154	503			7	249			12		119 8 9	220 3 1	243 12 4		23 9 3	Clarendon
Richmond	7	453 11 2	10,031	2,542 9 11	6,429	4,753		208		03			30	36	1,986 6 8	4,528 16 7	4,674 4 2		145 7 7	Richmond
Piper's Flat	2	261 10 7	445	90 0 5	743	1,122	51	5,657	442	23	18		1	1	3,054 17 2	3,144 17 7	2,532 10 2	612 7 5		Piper's Flat
Capertee	7	252 9 4	712	330 19 8	3 865	1,227	8,650	795	2,183		768			42	4,206 3 2	4,537 2 10	1,166 4 0	3,370 18 10		Capertee
Rylstone	13	360 12 9	1,735	1,219 2 9	929	1,390	107	120	34		1,267		13	4	1,648 19 4	2,868 2 1	2,813 18 10	54 3 3		Rylstone
Lue	1	53 18 8	192	80 15 3	45	113		7					2		38 3 2	118 18 5		118 18 5		Lue
Mudgee	13	788 18 7	5 135	5,458 10 5	8,331	6,945	14	1,019	71	28	18,493		226	2	16,906 0 5	22,364 10 10	21,306 4 9	1,058 6 1		Mudgee
Carcoar	4	227 6 4	1,482	539 19 2	1,370	1,640		66			725		19	5	1,266 8 2	1,806 7 4	1,830 8 0		24 0 8	Carcoar
Mandurama	2	172 12 6	1,785	430 3 0	935	1,438			94	2	1,016		35	1	2,595 6 3	3,025 9 3	1,151 10 5	1,873 18 10		Mandurama
Lyndhurst	2	198 5 1	1,508	257 3 6	1,202	512					1,045		73		632 7 11	889 11 5	617 11 1	272 0 4		Lyndhurst
Woodstock	4	258 19 6	1,530	633 18 0	1,023	811		6	45		1,857	104	54		1,202 13 10	1,836 11 10	1,750 7 4	86 4 6		Woodstock

APPENDIX XXVI—*continued.*

Stations.	No. of hands employed, including Station masters.	Total Salaries and Wages Expenditure. 1896.	No. of Tickets issued. 1896.	Revenue from Tickets and Coaching Traffic. 1896.	GOODS. Out. Tons	GOODS. In. Tons.	COAL. Out. Tons.	COAL. In Tons.	Other Minerals. Out. Tons.	Other Minerals. In. Tons	WOOL. Out. Bales.	WOOL. In. Bales.	HAY, STRAW, AND CHAFF. Out Trucks	HAY, STRAW, AND CHAFF. In Trucks	Revenue from Goods and Live Stock. 1896.	Total Earnings, exclusive of Special Earnings. 1896.	1895.	Increase. 1896.	Decrease 1896.	Stations
		£ s d		£ s. d.											£ s. d.	£ s. d.	£ s d	£ s. d.	£ s. d	
Cowra	11	724 19 6	4,255	3,000 10 1½	4,118	3,705		13	17		10,400	72	138	9	8,883 9 2	11,883 19 3½	13,726 16 9		1,842 17 5½	Cowra.
Borenore	2	280 10 0	1,015	287 0 2	2,499	497			5	38	1,383		183		432 3 9	719 3 11	999 17 9		280 13 10	Borenore.
Molong	5	374 1 8	2,950	1,745 11 7	3,789	2,616		226	141		5,570	1	43	26	4,570 16 9	6,316 8 4	6,165 3 1	151 5 3		Molong.
Manildra	5	141 13 4	837	375 2 6	2,591	589		6			997		86	1	444 18 3	820 0 9	686 5 11	133 14 10		Manildra.
Parkes	7	642 19 1	6,810	4,463 17 8	3,017	8,474		19	79	141	10,331		39	54	13,828 11 7	18,292 9 3	17,086 17 6	1,205 11 9		Parkes.
Forbes	5	639 11 6	4,701	4,742 11 0	4,965	5,062			111		21,743	94	22	46	16,190 8 3	20,932 19 3	20,287 14 10	645 4 5		Forbes.
Hermidale	1	77 16 2	643	514 13 11	607	639			350		175			9	563 13 8	1,078 7 7		1,073 7 7		Hermidale.
Cobar	4	416 13 3	3,727	5,601 14 3	5,232	9,759		8,501	2,935		9,410		2	286	36,450 16 8	42,052 10 11	30,959 11 3	11,092 19 8		Cobar.
Meadow Bank	3	232 18 8	13,353	947 0 8												947 0 8	897 1 8	49 19 0		Meadow Bank.
Ryde	4	502 18 10	12,858	1,012 7 0	2,065	1,671		1,460	1,563	21				54	646 5 9	1,658 12 9	1,652 3 7	6 9 2		Ryde.
Eastwood	3	202 0 0	12,990	828 2 2	1,250	890		20						2	257 13 10	1,085 16 0	1,256 3 1		170 7 1	Eastwood.
Carlingford	3	398 2 0	20,779	1,628 5 6	1,563	3,122		30	38	149			1	1	548 8 8	2,176 14 2	2,034 10 6	142 3 8		Carlingford
Beecroft	1	152 13 4	8,615	978 19 10	166	538		24		46					121 16 2	1,100 16 0	1,089 8 10	11 7 2		Beecroft
Thornleigh	2	213 17 11	9,033	775 12 2	3,531	4,065		53		64			1	31	880 6 11	1,655 19 1	1,591 18 5	64 0 8		Thornleigh.
Hornsby	13	1,122 7 8	} 36,156	1,829 1 11	803	5,039		46		177	12			5	746 17 6	2,575 19 5	2,169 4 2	406 15 3		} Hornsby.
Cowan	2	231 5 0	}																	} Cowan.
Wahroonga	1	101 8 0	18,406	1,227 1 9	804	8,349	6	31		153					713 0 0	1,940 1 9	442 2 5	1,497 19 4		Wahroonga.
Turramurra	1	91 0 0	17,046	1,086 9 6	1,014	4,718		123		213				5	419 14 2	1,506 3 8	1,090 3 11	415 19 9		Turramurra
Pymble	1	104 0 0	23,660	1,510 3 9	616	4,030		118		80				19	491 14 10	2,001 18 7	1,760 2 4	241 16 3		Pymble.
Gordon	2	264 16 0	14,174	643 16 7	521	1,465		29		243					91 11 1	735 7 8	7 0 9 1	4 18 7		Gordon
Lindfield	1	87 12 6	10,960	625 0 6												625 0 6	203 0 8	421 19 10		Lindfield.
Chatswood	3	237 15 0	59,173	2,445 2 1	237	3,502		2,608	11	281			2	53	1,232 9 8	3,677 11 9	2,539 7 4	1,138 4 5		Chatswood.
St Leonards	4	269 14 0	29,472	994 11 8	3,905	5,501		654	13	35				29	1,576 5 6	2,570 17 2	2,915 6 1		344 8 11	St Leonards.
Bay Road	1	140 0 0	9,483	300 17 1	11	16									31 9 0	332 6 1	280 15 5	51 10 8		Bay Road
Milson's Point	5	632 14 6	126,672	6,459 18 4	3,063	1,651	36	6	426	26					586 16 10	7,046 15 2	5,151 1 7	1,895 13 7		Milson's Point.
Hawkesbury	4	479 17 2	3,615	721 9 1	473	664		248							209 4 5	930 13 6	1,047 4 3		116 10 9	Hawkesbury.
Woy Woy	2	237 10 11	2,107	395 11 2	118	1,472		6							46 0 7	441 11 9	358 12 10	82 18 11		Woy Woy.
Gosford	5	679 9 8	4,698	1,611 7 11	2,264	1,288		66						3	558 11 4	2,169 19 3	2,147 1 1	22 18 2		Gosford
Ourimbah	7	433 7 6	2,037	312 4 8	2,901	376							3	1	235 12 9	547 17 5	530 12 7	17 4 10		Ourimbah.
Wyong	5	407 18 7	2,900	677 14 11	8,724	1,283		11		391				10	1,276 12 3	1,954 7 2	1,644 0 11	310 6 3		Wyong
Wyee	2	296 0 0	344	60 16 0	204	41									11 0 5	71 16 5		71 16 5		Wyee
Morrisett	3	369 19 1	2,091	479 13 9	4,628	670								2	371 12 6	851 6 3	798 0 5	53 5 10		Morrisett.
Awaba	2	276 10 1	1,522	162 11 1	5,394	1,282								1	239 5 5	401 16 6	356 16 2	45 0 4		Awaba
Fassifern	2	296 8 10	2,487	433 2 3	899	569	190			6					56 9 11	489 12 2	467 11 2¾	22 0 11½		Fassifern.
Teralba	4	430 18 11	8,718	619 16 9	2,212	1,012	233		2,106	32				4	261 6 6	881 3 3	1,092 16 9¾		211 13 6¾	Teralba
Cockle Creek	6	660 4 11	11,053	736 12 1¾	508	5,542	176	17		1,274				1	495 12 3	1,232 4 4¾	1,188 8 3¾	43 16 1½		Cockle Creek
Adamstown	4	523 6 9	13,056	890 4 8¾	601	2,053	8	596		695				17	135 3 0	1,025 7 8½	1,087 18 7½		62 10 10¾	Adamstown.
Newcastle	109	12,854 8 7	73,659	20,595 11 8	44,996	32,183	179	2,044,878	1,729	17	138	66,865	631	361	124,883 4 4	145,478 16 0	166,021 6 3¾		20,542 10 3½	Newcastle
Honeysuckle Point	16	1,984 12 4	26,658	2,670 14 1	6,025	6,577		1,013	1,040	16			29	202	4,101 4 7	6,771 18 8	7,098 8 1¼		326 9 5½	Honeysuckle
Bullock Island	36	4,736 7 0			535	4,005	1,706	6,231		560			11	66	532 2 2	532 2 2	371 9 8	160 12 6		Bullock Island.
Hamilton	23	2,914 16 6	29,454	2,765 15 2	423	2,729		1,040						5	548 12 3	3,314 7 5	3,248 0 11	66 6 6		Hamilton.
Hamilton Weighbridge	2	304 3 4					2 049,407													do W'bridge
Waratah	10	1,274 12 0	26,544	2,326 8 11½	1,730	4,151	490	320	126	1,334				30	911 16 6	3,238 5 5½	2,798 19 8½	439 5 9		Waratah.
Hexham	10	883 6 5	16,429	1,683 17 10¾	331	3,015	37	244		590			24	90	550 14 10	2,234 12 8½	2,422 8 10½		187 16 2¼	Hexham.
Tarro	2	230 4 3	4,500	380 8 0	585	218							40	2	50 19 6	431 7 6	461 4 11		29 17 5	Tarro
Thornton	1	130 0 0	1,406	113 5 3½	335	61							21		23 7 1	136 12 4½	182 3 2		45 10 9½	Thornton.
East Maitland	14	1,249 9 11	34,451	3,794 16 11¼	3,031	1,914	4,568	26		49			179	21	1,013 16 1	4,808 13 0¼	4,556 3 3½	252 9 8¾		East Maitland.
High street	5	434 16 0	17,478	2 204 8 5¾												2,204 8 5¾	2,030 1 5	174 7 0¾		High street
West Maitland	29	2,998 3 8	30,083	7,615 14 4	13,531	11,519	161	1,091	74	23	2,116	1,916	623	114	10,778 18 2	18,394 12 6	20,436 11 8½		2,041 19 2½	West Maitland.
Farley	3	399 4 0	1,460	147 1 6	1,409	919	8,088		102	111				1	1,390 13 11	1,537 15 5	1,877 2 11		339 7 6	Farley.
Lochinvar	4	394 14 3	1,858	331 18 7	349	264	752	13			2		10		202 10 9	534 9 4	575 16 1		41 6 9	Lochinvar.
Allandale	1	140 0 0	1,595	283 18 7½	1,095	268								1	212 13 6	496 12 1½	426 1 2	70 10 11½		Allandale.
Greta	5	557 7 7	4,808	1,158 16 4¼	265	2,180		22	8	49				18	643 12 7	1,802 8 11¼	2,066 11 7		264 2 7¾	Greta
Branxton	4	494 0 9	3,244	920 18 9	1,561	1,080		49				2	29	12	641 18 7	1,562 17 4	1,777 14 4		214 17 0	Branxton.

APPENDIX XXVI—*continued.*

Stations	No of hands employed including Station masters	Total Salaries and Wages Expenditure 1896.	No of Tickets issued 1896.	Revenue from Tickets and Coaching Traffic 1896.	GOODS. Out Tons	GOODS. In Tons	COAL Out Tons	COAL In Tons	Other Minerals Out Tons	Other Minerals In Tons	WOOL. Out Bales	WOOL. In Bales	HAY, STRAW, AND CHAFF Out Trucks	HAY, STRAW, AND CHAFF In Trucks	Revenue from Goods and Live Stock. 1896.	Total Earnings, exclusive of Special Earnings 1896.	Total Earnings, exclusive of Special Earnings 1895	Increase 1896.	Decrease 1896	Stations
		£ s d		£ s d											£ s d	£ s d	£ s d	£ s d	£ s d	
Whittingham	2	168 6 0	707	323 18 6	227	167				26	45		2	7	147 3 10	471 2 4	479 15 11		8 13 7	Whittingham.
Singleton	15	1,490 5 9	12,534	5 474 3 9½	4,437	5,412	12,465	795		78	174		72	25	3 554 6 6	9,028 10 3¾	8,795 11 3½	232 19 0½		Singleton
Glennies Creek	1	150 0 0	474	138 6 7	487	152	768	.			29		4	2	73 19 4	212 5 11	312 10 9		100 4 10	Glennies Creek
Ravensworth	4	310 6 7	581	135 5 11	222	105	22				297		1	1	54 13 7	189 19 6	208 0 9		18 1 3	Ravensworth
Muswellbrook	22	1,411 18 6	6,280	3 697 6 0	2 889	3 424	70	338	15	14	7,080	.		35	4,256 4 10	7,953 10 10	8 787 16 5	.	834 5 7	Muswellbrook.
Aberdeen	7	517 17 6	2,893	1 072 12 1	8,021	3,195	8	5,070		15	2,804		9	6	14,400 2 0	15,472 14 1	18,994 16 2		3,522 2 1	Aberdeen
Scone	11	764 7 9	4,500	2,048 1 11	1,922	3,044		313	4	30	5,100		19	26	3,776 9 7	6,319 11 6	5,698 11 7	620 19 11		Scone
Wingen	7	382 19 7	589	165 5 9	188	142		5			451		16		144 14 11	310 0 8	373 18 0		63 17 4	Wingen
Blandford	2	256 0 8	550	201 13 0	375	193					1,594		20		222 2 8	423 15 8	504 16 8	.	81 1 0	Blandford
Murrurundi	16	1,399 7 6	2,607	1,532 19 10	430	1,271	.	158	6		235		13	6	2,000 9 1	3,533 8 11	3,506 8 5	27 0 6		Murrurundi
Aidglen	4	290 18 0	609	94 18 3	176	140					761	.		2	139 11 6	234 9 9	204 17 4	29 12 5		Aidglen
Willow tree	5	482 7 6	927	359 3 11	733	449					3 015		7	1	778 19 10	1 138 3 9	842 16 5	295 7 4		Willow tree
Quirindi	13	986 13 1	4,792	3 014 14 5	3,008	4,655		167			7,856		13	30	6,147 3 4	9 161 17 9	9 634 18 10		473 1 1	Quirindi
Werris Creek	14	1,113 1 11	3 940	2,134 15 10	410	1,682		86			523		17		1 464 8 10	3,599 4 8	2,406 12 11	1,192 11 9		Werris Creek
Currabubula	5	359 17 7	1,240	327 10 4	1,912	435					1,536		68	2	380 6 10	712 17 2	824 12 0		111 14 10	Currabubula
West Tamworth	9	848 13 7	624	320 17 7	4,391	3,359			240	14	14,604		22	12	4 437 19 3	4,758 16 10	4,679 13 2	79 3 8		West Tamworth
Tamworth	16	1,208 9 8	7,078	7,644 16 3	8,981	9,707	.	1,182	30	47	892	29	254	78	13,158 0 11	20,802 17 2	21,267 10 5		464 13 3	Tamworth
Moonbi	6	366 14 1	1 870	412 10 3	927	498			11		1 138		59		335 15 10	748 6 1	681 8 1	66 18 0		Moonbi
Woolbrook	1	149 16 0	390	154 4 10	169	205					590	214			118 16 5	273 1 3	207 8 0	65 13 3		Woolbrook
Walcha Road	8	573 15 0	1,343	1 110 1 1	1,271	1,287		6			3,196		5	4	2,757 10 3	3,867 11 4	3,952 17 0		85 5 8	Walcha Road
Kentucky	2	180 2 0	445	181 6 4	400	173			3		1 322			1	232 14 9	414 1 1	335 10 8	78 10 5		Kentucky
Uralla	11	489 3 1	2,427	1 396 16 4	1 636	2 054		13	9		6,490		16	6	3 780 3 5	5,176 19 9	5 583 18 10		406 19 1	Uralla
Armidale	27	1,693 13 11	6,710	7,857 10 4	4,878	7,999		1,053	1,010	20	4,103	180	153	35	15,419 15 10	23,277 6 2	26,389 13 2		3,112 7 0	Armidale
Dumaresq			312	22 8 7												22 8 7	23 10 3		1 1 8	Dumaresq
Black Mountain	3	199 13 5	493	174 2 3	1,570	287					149		4		209 0 1	383 2 4	398 11 10		15 9 6	Black Mountain
Guyra	5	265 15 2	1,429	729 15 3	2,882	663		13	7		1,089	22	67		814 15 0	1,544 10 3	1,670 8 6		125 18 3	Guyra
Ben Lomond	5	222 18 0	648	210 11 8	601	247	.				845		8		249 5 10	459 17 6	410 5 10	49 11 8		Ben Lomond
Glencoe	5	277 11 3	502	258 15 3	933	115					152		71	1	102 19 2	361 14 5	389 14 0		27 19 7	Glencoe
Glen Innes	14	320 18 5	4,223	5,030 7 11	6,071	6,619		244	630	47	8,201	150	225	10	12,017 0 0	17,047 7 11	16,539 3 5	508 4 6		Glen Innes
Dundee		372 11 10	499	69 13 6												69 13 6	52 13 7	16 19 11		Dundee
Deepwater	10		1,650	1 034 12 3	2 419	1 800		26	1,083	31	1,197	804	1	22	2,462 2 9	3,496 15 0	3,893 3 6		396 8 6	Deepwater
Bolivia			291	48 19 7												48 19 7	55 4 2		6 4 7	Bolivia
Tenterfield	16	604 14 4	2,767	2,301 8 10	1,061	1,402		38	19	8	414		10	1	6,038 3 6	8,339 12 4	7,469 14 8	869 17 8		Tenterfield
Jennings			1,635	1,358 12 8	824	725			221	48	111		1	3	569 8 2	1,928 0 10	2,364 15 3		436 14 5	Jennings
Wallsend	6	715 0 4	1,240	71 9 0	1,496	6,411	.	24		716			1	129	1,074 10 5	1,145 19 5	1,008 9 3	137 10 2		Wallsend
Morpeth	10	1,168 11 3	10,966	1,158 10 3¼	9,615	14,819		3,740		1,914	165	69,513	52	13	41,665 0 5	42,823 10 8½	47,876 14 6		5,053 3 9½	Morpeth
Bleeza	6	339 12 0	715	393 8 2	889	368		6			2 449			1	512 7 10	905 16 0	1,116 0 8		210 4 8	Bleeza
Cullewis	2	236 9 5	670	272 2 7	1,264	540	372				904		2	1	374 12 2	646 14 9	757 19 3		111 4 6	Cullewis
Gunnedah	10	629 0 11	3,588	3,233 16 3	3,910	3,259	865	11			6,603	9	10	34	6,910 11 2	10,144 7 5	10,165 4 9		20 17 4	Gunnedah
Boggabri	9	348 18 11	1,866	1 162 3 5	2,299	1,119		34			3,386	76		14	2,162 8 11	3,324 12 4	2,781 5 1	543 7 3		Boggabri
Baan Baa	1	140 0 0	1,110	353 9 5	1,874	290		1			472		13	4	355 7 10	708 17 3	328 11 2	380 6 1		Baan Baa.
Narrabri	19	1,927 1 9	6,064	9,721 10 0	14,414	16,274		681			77,949	186	1	430	38,811 19 0	48,533 9 0	48,281 0 9	252 8 7		Narrabri
Byron Bay																	93 17 1		93 17 1	Byron Bay
Lismore	4	861 16 11	15,410	3,156 8 3	18,434	18,434									3,340 6 11	6 496 15 2	3,717 2 2	2,779 13 0		Lismore
Victoria			16 888	25,502 11 6	7,866	5,788									1,292 17 3	26,845 8 9	23,412 7 11	3,433 0 10		Victoria
Queensland			2,300	7 920 2 5											...	7,920 2 5	6,270 6 11	1,649 15 6		Queensland
South Australia			1,256	2,879 10 7												2,879 10 7	2 072 5 4¾	807 5 2¼		South Australia
Cook and Sons			1,725	2,402 17 4½			.								.	2,402 17 4½	2,150 3 0½	252 14 4		Cook and Sons
GRAND TOTAL	2,631	263,806 7 1	8,189,276	974,795 14 8½	1,331,345	1,331,345	2,447,385	2,447,385	74,941	74,941	644,858	644,858	16,268	16,268	1,809,690 19 8	2,784,486 14 4½	2,836,365 2 6¾	135,010 6 9½	186,888 14 11½	

APPENDIX XXVII.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

RETURN showing the Appointments of Railway Employés from the 1st July, 1895, to the 30th June, 1896.

Date	Name	Position	Rate	Remarks
		TRAFFIC AUDITOR'S BRANCH		
1895				
2 Sept	Wilkin, Horace M	Office boy	10/ per week	*Vice* R Pearce
1896				
14 Jan	Morgan, Sidney A	Apprentice clerk	£30 per ann	*Vice* P Mulholland
22 June	Fleming, William A	Apprentice clerk	£30 per ann	*Vice* J B Byrnes
		ENGINEER IN CHIEF FOR EXISTING LINES BRANCH		
1895				
25 Oct	Keevers, Francis G	Bricklayer	10/ per day	*Vice* J Bowler
25 ,,	Keane, John	Labourer	6/6 per day	*Vice* J Miller
25 ,,	Nolan Patrick J	Fettler	6/6 per day	*Vice* J Reading
25 ,,	M Guckin, John	Labourer	7/ per day	*Vice* L Hollebon
1 Nov	O Shea, John	Fettler	7/6 per day	*Vice* M Sweeney
1 ,,	Cook, John (West)	Fettler	7/6 per day	*Vice* A M'Kay
1 ,,	Cook, John (South)	Labourer	6/6 per day	*Vice* W Jameson
1 ,,	Swanson, William	Labourer	7/6 per day	*Vice* T Muldoon
1 ,,	Timm, Charles	Fettler	7/6 per day	*Vice* W Cocking
14 ,,	O Toole, James	Fettler	7/6 per day	*Vice* J Appleby
21 ,,	Martin, John R	Labourer	6/6 per day	*Vice* J Shepherd
25 ,,	Harding, Francis	Labourer	7/ per day	*Vice* R Meeks
1896				
29 Jan	Sweeney, Hugh	Labourer	7/ per day	*Vice* A Winter
1 Feb	Richardson, John E	Office boy	2/ per day	Transferred from extra staff
5 ,,	Evans, George H	Office boy	3/ per day	
7 ,,	Covne, William	Fettler	7/6 per day	*Vice* J Thomas
7 ,,	Myers, John	Labourer	7/ per day	*Vice* J May
7 ,,	Fitzpatrick, Austin	Fettler	7/6 per day	*Vice* J Williams
7 ,,	Lawrence, George	Fettler	7/6 per day	*Vice* H Worley
11 ,,	Hutton, James	Labourer	7/ per day	*Vice* P Nolan
14 ,,	Claxton George	Labourer	6/6 per day	*Vice* F Sinkett
14 ,,	Freel, James	Fettler	7/ per day	*Vice* P Freel
15 ,,	Stephen, Alfred	Fettler	7/ per day	*Vice* O Mulheron
15 ,,	Devereux, John	Fettler	7/ per day	*Vice* M Fanning
15 ,,	Budd, James	Fettler	7/ per day	*Vice* J Boyle
15 ,,	Eggleston, John	Labourer	7/ per day	*Vice* L Watters
19 ,,	Worthington, James	Labourer	7/ per day	*Vice* W Smith
20 ,,	Smith, William	Labourer	6/6 per day	*Vice* A Cappoin
20 ,,	Howell, Frank	Carpenter	8/ per day	Re employed
21 ,,	Schmeer, Charles	Labourer	7/ per day	*Vice* D O Leary
28 ,,	Evans, Alfred	Labourer	7/ per day	*Vice* W Potter
28 ,,	Calnan, John Temple	Labourer ..	7/ per day	*Vice* J Jackaman
28 ,,	Kildey, James	Fettler	7/- per day	*Vice* W Nugent
5 Mar	Tynan, John	Labourer	7/ per day	*Vice* C Day
10 ,,	Abbott, George	Office boy	2/ per day	Transferred from extra staff
10 ,,	Tiller, Herbert Charles	Office boy	2/ per day	
13 ,,	Towler, George	Labourer	7/ per day	*Vice* J Ogilvie
1 April	Jameson, William	Labourer	7/6 per day	*Vice* W Laughton
1 ,,	Kay, William J	Labourer	7/ per day	*Vice* M New
3 ,,	Pickin, William P	Office boy	2/ per day	Transferred from extra staff
3 ,,	Ingersole, James	Labourer	6/6 per day	*Vice* G Marks
3 ,,	Pruen, Percival G	Office boy	3 per day	
3 ,,	Smith, Thomas	Fettler	7/6 per day	Transferred from extra staff
9 ,,	Taylor, George	Blacksmith	8/ per day	
9 ,,	Hudson, Thomas	Office boy	2/ per day	
10 ,,	Sherwin, John	Labourer	7/ per day	*Vice* D Field
10 ,,	Freer, Archibald	Assistant weighbridge fitter	3/6 per day	Transferred from extra staff
10 ,,	Cantwell, Michael	Labourer	7/ per day	*Vice* C Elsley
10 ,,	Russell Edward D	Office boy	2/ per day	Transferred from extra staff
10 ,,	Bradwell, John	Labourer	7/ per day	*Vice* J Perkins
10 ,,	Duncanson, John	Labourer	7/ per day	*Vice* W Nutland
10 ,,	Cole, Charles W	Labourer	7/ per day	*Vice* F O'Hara
15 ,,	M'Gowan, John	Office boy	2/ per day	Transferred from extra staff
17 ,,	Bald, John	Plumber	10/8 per day	*Vice* C M'Kinn
17 ,,	Hatfield, Herbert	Office boy	3/ per day	
17 ,,	Bilton, Joseph	Office boy	3/ per day	Transferred from extra staff
17 ,,	Burton, Arthur	Fettler	7/6 per day	
17 ,,	Cook, John	Office boy	3/ per day	
19 ,,	Freer, John	Labourer	7/ per day	*Vice* R Ferry
21 ,,	O Sullivan, Denis	Fettler	7/ per day	Transferred from extra staff
24 ,,	Brown, William	Office boy	2/6 per day	
24 ,,	Woodward, Charles	Labourer	7/ per day	*Vice* W Clift
25 ,,	Marshall, Colin	Labourer	7/ per day	Transferred from extra staff
4 May	Harvey, Thomas	Labourer	7/6 per day	*Vice* J Wrigley
4 ,,	Carroll, Patrick	Labourer	7/ per day	*Vice* T Flynn
8 ,,	Greenan, John	Labourer	7/ per day	Transferred from extra staff
8 ,,	Guthrie, Thomas	Labourer	7/ per day	
8 ,,	Vaughan, John	Office boy	3/ per day	
8 ,,	Abrahams, John A	Labourer	7/ per day	*Vice* G Hewish
8 ,,	Doherty, Edward	Labourer	7/ per day	*Vice* W Rowland
9 ,,	Heegel, Walter	Office boy	2/ per day	Transferred from extra staff
15 ,,	Banks, Charles	Fitter	8/ per day	
15 ,,	Clark, George	Carpenter	8/ per day	
15 ,,	King, George	Labourer	6/ per day	*Vice* A Grindrod
15 ,,	Jansen, George	Fettler	7/6 per day	Transferred from extra staff
15 ,,	Gilligan Charles	Fettler	7/6 per day	
18 ,,	Jones, Charles D	Office boy	2/ per day	
19 ,,	Cotter, Edwin	Office boy	2/ per day	
5 June	Bennett, Henry	Fencer	7/ per day	
12 ,,	Juratowitch, Nicholas	Fettler	7/6 per day	*Vice* W Whelan
18 ,,	Campey, Alfred	Office boy	2 per day	Transferred from extra staff
		CHIEF MECHANICAL ENGINEER'S BRANCH		
1895				
27 June	Sander, John	Striker	7/ per day	*Vice* W Pryor
15 July	Wall, Charles	Fuelman	6/6 per day	Re employed
18 ,,	Fury, James	Fuelman	6/6 per day	*Vice* G Thompson
18 ,,	Oates, George	Fuelman	7/ per day	*Vice* R Main
3 Aug	Thomas, William A	Fuelman	6/6 per day	*Vice* L Hyer
13 ,,	Passmore, Thomas	Cleaner	6/ per day	*Vice* W Abbott
26 ,,	Ferguson, Alexander	Apprentice	1/3 per day	*Vice* W Stevens
2 Sept	Fisher, Peter	Shop boy	1/9 per day	*Vice* A Hilton
17 ,,	Gordon, James	Cleaner	6/ per day	*Vice* A Hamsme
26 ,,	Smith, Edward	Cleaner	3/3 per day	*Vice* R Tate
27 ,,	Bryant, William F	Shop boy	1/9 per day	*Vice* A Hilton
10 Oct	Rowe, William	Blacksmith	10/8 per day	Re employed, *vice* J Burgess
18 ,,	Campbell, Charles	Boilermaker's assistant	7/ per day	*Vice* G Smith
18 ,,	Parker, Arthur	Fitter	10/ per day	*Vice* J Power
18 ,,	Hume, Edward	Fitter	10/ per day	*Vice* J Hampill
18 ,,	Lea, Edward	Fitter	10/8 per day	*Vice* T White
18 ,,	Ross, George ..	Coppersmith	10/ per day	*Vice* T. Richardson

APPENDIX XXVII—*continued.*

Date	Name	Position	Rate	Remarks
1895		CHIEF MECHANICAL ENGINEER'S BRANCH—*continued*		
18 Oct	Fitzpatrick, John	Turner	10/6 per day	*Vice* W Carroll
15 Nov	Findall, Nathaniel	Labourer	7/ per day	Transferred from extra staff
15 ,,	Duffy, Roger	Labourer	7/ per day	
15 ,,	Campbell, John	Labourer	7/ per day	
1896				
6 Jan	McGurgan, Edward	Apprentice	10d per day	*Vice* J Hayes
22 ,,	Byrne, Harold	Boilermaker's assistant	7/ per day	*Vice* D Reid
24 ,,	Triglone John M	Gasfitter	10/ per day	*Vice* M M'Lean
24 ,,	Lewis William	Painter's assistant	7/ per day	*Vice* J Pritchard
24 ,,	Mutton, William	Boilermaker	10/ per day	*Vice* C Gill
24 ,,	Cowdery Frank	Shop boy	4/ per day	*Vice* J Waring
24 ,,	Winspear, William	Apprentice	5/ per day	*Vice* C Martin
24 ,,	Cahalan, Andrew	Cleaner	5/6 per day	*Vice* J Coleman
24 ,,	Osborne Dudley	Shop boy	5/ per day	*Vice* J North
24 ,,	Clark, James	Boilermaker's assistant	7/ per day	*Vice* J Crossley
28 ,,	Greaves James	Examiner	7/6 per day	At Lismore
28 ,,	Waulhop, Maggie	Upholsteress	17/6 per week	At Eveleigh
30 ,,	Bell David H	Apprentice	10d per day	*Vice* T Olliffe
3 Feb	Moon, Alice Maud	Upholsteress	15/ per week	At Eveleigh
4 ,,	Ralph, Horace	Shop boy	2/3 per day	*Vice* H Viney
21 ,,	Simpson Robert	Machinist	9 per day	*Vice* R Crews
21 ,,	Williams, William H	Labourer	7/ per day	*Vice* G Lawton
21 ,,	Pemberton William	Blacksmith	10/8 per day	*Vice* E Davis
21 ,,	Inglis, Allen	Blacksmith	11/ per day	*Vice* J Harris
21 ,,	Gunn, James	Apprentice	5/ per day	*Vice* J Spence
21 ,,	Connor, Arthur W	Boy assistant	5 per day	*Vice* J McKenzie
21 ,,	Swinden, John	Boy assistant	5/ per day	*Vice* T Cartwright
21 ,,	Guthrie Robert B	Striker	7/ per day	*Vice* G Mathieson
21 ,,	Horsfield Stanley	Striker	7/ per day	*Vice* J Wishardt
21 ,,	Graham Sidney	Striker	7/ per day	*Vice* J Benn
21 ,,	Sheehan Francis	Messenger	25/ per week	*Vice* W Francis
26 ,,	Hannigan, Daniel	Call boy	2 6 per day	*Vice* J McIntyre
20 Mar	Swires, James	Moulder	10/6 per day	*Vice* W McMillan
20 ,,	Burkett Harry	Traverser driver	7/6 per day	*Vice* J Murray
20 ,,	McCaffery, James	Labourer	7/ per day	*Vice* W Winspear
20 ,,	Jones Thomas	Fitter ..	10/ per day	*Vice* J Carson
1 April	Pendleton, Simeon	Apprentice	2/ per day	
1 ,,	Crowther, Joseph H	Apprentice	1/3 per day	
1 ,,	Holloway, John B	Apprentice	10d per day	
1 ,,	Davidson, James	Apprentice	2/ per day	
1 ,,	Harvey, Alfred	Apprentice	1/3 per day	
1 ,,	Nelmes Arthur R	Apprentice	1/3 per day	
1 ,,	Baker Charles	Cleaner	2 6 per day	
1 ,,	Poulton, Arthur	Apprentice	2/ per day	
1 ,,	Antill, Albert W	Apprentice	2/ per day	
1 ,,	Anderson Albert	Apprentice	3/ per day	
1 ,,	Sheehan, Frederick	Office boy	10/ per week	
1 ,,	Fell George	Shop boy	5/ per day	
1 ,,	Adams, Andrew J	Shop boy	2/3 per day	
1 ,,	Carr James	Shop boy	4/ per day	
1 ,,	Roberts, George F	Shop boy	2/6 per day	
1 ,,	Watsford, Horace	Apprentice	10d per day	
1 ,,	Frost, Thomas	Apprentice	2/ per day	
1 ,,	Perkins John	Apprentice	1/3 per day	
1 ,,	Atkinson Herbert C	Apprentice	2/ per day	
1 ,,	Bristow Stuart	Apprentice	1/3 per day	
1 ,,	Kemp Walter J R	Apprentice	1 3 per day	
1 ,,	Harrex, William	Apprentice	10d per day	
1 ,,	Branch, William	Shop boy	5/ per day	
1 ,,	Cooper, Arthur J	Steam hammer boy	3/ per day	
1 ,,	Littlejohn Robert	Steam hammer boy	5/ per day	
1 ,,	Strange, Walter	Steam hammer boy	4/ per day	Transferred from extra staff
1 ,,	Tully, Alfred H	Steam hammer boy	3/ per day	
1 ,,	Malley John F	Shop boy	4/ per day	
1 ,,	Mitch, Frederick W	Shop boy	1/9 per day	
1 ,,	Logan, Robert	Apprentice	5/ per day	
1 ,,	Evans, William	Apprentice	5/ per day	
1 ,,	Baldwin, Horace	Apprentice	2/ per day	
1 ,,	Williams, William	Apprentice	5/ per day	
1 ,,	Vaughan John	Apprentice	3/ per day	
1 ,,	McNamara, James	Apprentice	2/ per day	
1 ,,	Brears Albert	Apprentice	1/3 per day	
1 ,,	Cape, Arthur E	Apprentice	2/ per day	
1 ,,	Pusley, Frederick	Apprentice	10d per day	
1 ,,	Thompson, Phineas	Apprentice	3/ per day	
1 ,,	Rayward, Ernest	Apprentice	5/ per day	
1 ,,	Bernberg Colman	Apprentice	5/ per day	
1 ,,	Jones, Frederick	Apprentice	5/ per day	
1 ,,	Hall, James D	Apprentice	2/ per day	
1 ,,	Warner, Austin	Apprentice	2/ per day	
1 ,,	Douglas, William H	Apprentice	1/3 per day	
1 ,,	Fernley, George	Apprentice	10d per day	
1 ,,	Shields, James H	Apprentice	1/3 per day	
1 ,,	Heron, Alfred	Apprentice	3/ per day	
1 ,,	Scott William	Apprentice	3/ per day	
1 ,,	Newton, Arthur	Apprentice	10d per day	
1 ,,	Langley, William T	Apprentice	10d per day	
1 ,,	Clark, Edward	Apprentice	10d per day	
1 ,,	Petrie, Norman C	Apprentice	10d per day	
1 ,,	Henderson Stuart	Apprentice	10d per day	*Vice* J Dickinson
1 ,,	Gilbert Robert	Apprentice	5 per day	
1 ,,	M Guinness James H	Apprentice	5/ per day	
1 ,,	Townley Frank	Cleaner	5/ per day	
1 ,,	O Shannessy, James	Cleaner	2 6 per day	
1 ,,	Heron, David	Cleaner	4 per day	
1 ,,	McLachlan, Archibald	Cleaner	5 per day	
1 ,,	Randall Percy	Cleaner	5/ per day	
1 ,,	Colley, Walter	Call boy	2/6 per day	
1 ,,	Hainsworth, William ..	Call boy	2/6 per day	
1 ,,	McCarney, Joseph P	Call boy	2 6 per day	
1 ,,	Crawford Robert R	Telephone boy	3/3 per day	Transferred from extra staff
1 ,,	Mitch, John	Telephone boy	3 3 per day	
1 ,,	Seach, Sidney	Cleaner	4 per day	
1 ,,	Robson, Thomas	Cleaner	4/ per day	
1 ,,	Hinds John	Cleaner	4/ per day	
1 ,,	Duncan, Arthur	Boy assistant	5/ per day	
1 ,,	Branch Frank	Cleaner	5/ per day	
1 ,,	Spicer, George	Cleaner	5/ per day	
1 ,,	Graham, William	Cleaner	5/ per day	
1 ,,	Abbott Walter	Store boy	3 per day	
1 ,,	Skelton, George	Call boy	2/6 per day	
1 ,,	Toovey, Charles E	Improver	7/ per day	*Vice* J Reid
1 ,,	Maloney, John	Boilermaker's assistant	7/ per day	*Vice* J Cannon.
10 ,,	Duncan, William	Cleaner	4/ per day	
10 ,,	Broadhead, Joseph T	Cleaner	5/ per day	Transferred from extra staff
10 ,,	Richardson Thomas	Telephone Boy	2 6 per day	
17 ,,	Stedman, Leslie	Apprentice	1/3 per day	

APPENDIX XXVII—*continued.*

Date.	Name.	Position.	Rate	Remarks.
1896.		CHIEF MECHANICAL ENGINEER'S BRANCH—*continued.*		
17 April	Handley, Ernest	Apprentice	5/- per day	*Vice* . Crawford.
17 ,,	Cheeseman, Arthur	Apprentice	2/ per day	
17 ,,	Goodwin, George	Apprentice	10d. per day	
17 ,,	Powys, Leslie O.	Apprentice	10d per day	Transferred from extra staff.
17 ,,	Gray, Herbert	Apprentice	1/3 per day	
17 ,,	Blackwood, James	Striker	7/- per day	*Vice* J. Watts.
17 ,,	Wells, Edward	Steam hammer boy	5/- per day	
17 ,,	Harmey, Michael	Steam hammer boy	1/9 per day	Transferred from extra staff.
17 ,,	Ralph, Horace	Shop boy	2/3 per day	
17 ,,	Silk, John	Boilermaker	10/- per day	*Vice* A. Paton.
17 ,,	Kitching, William	Turner	10/- per day	*Vice* A. Nightingale.
17 ,,	Harrison, Edward	Car builder	10/- per day	
17 ,,	O'Neill, Charles	Labourer	7/ per day	Transferred from extra staff
17 ,,	Crolly, Ambrose	Labourer	7/ per day	
17 ,,	Horrigan, James	Labourer	7/- per day	
17 ,,	Drane, Joseph	Apprentice	10d per day	*Vice* F. Gray.
17 ,,	Bilton, Charles	Striker	7/- per day	*Vice* J. Horrocks
17 ,,	Campling, Albert	Improver	7/- per day	Transferred from extra staff.
17 ,,	Hudson, Frederick A.	Lifter	8/- per day	*Vice* C Steward.
17 ,,	Williams, Sidney	Boy assistant	4/6 per day	Transferred from extra staff.
24 ,,	Sparrow, George	Cleaner	7/- per day	*Vice* C. M. Byrne
24 ,,	Ambrose, John	Fuelman	8/- per day	
1 May	Logan, William	Apprentice	2/ per day	
1 ,,	Hill, John	Labourer	7/- per day	
1 ,,	Twining, Frederick	Labourer	7/- per day	
1 ,,	Parsons, Robert	Labourer	7/ per day	
1 ,,	Weaver, Frederick	Shop boy	5/- per day	
1 ,,	Maher, Michael	Labourer	7/- per day	
1 ,,	Whitmore, William	Painter's assistant	6/6 per day	
1 ,,	Twyford, James	Painter's assistant	7/- per day	Transferred from extra staff
1 ,,	Root, Alexander	Cleaner	5/- per day	
1 ,,	Robb, John	Fuelman	9/- per day	
1 ,,	Newton, Thomas	Watchman	7/- per day	
1 ,,	Boulder, Oliver	Labourer	7/- per day	
1 ,,	Bussey, David	Office boy	4/- per day	
1 ,,	Ellis, William	Call boy	2/6 per day	
1 ,,	Mayfield, John	Fuelman	7/- per day	
1 ,,	King, Thomas	Cleaner	4/- per day	
1 ,,	Hunter, Joseph	Boilermaker's assistant	7/- per day	
1 ,,	Scott, John	Fuelman	7/- per day	
8 ,,	Craven, William	Apprentice	10d. per day	*Vice* W. Watts.
15 ,,	Johnson, William	Striker	7/- per day	
15 ,,	Gietz, Alexander	Labourer	7/- per day	
15 ,,	Brown, George T.	Cleaner	7/- per day	
15 ,,	Taylor, George	Boilermaker's assistant	7/- per day	
15 ,,	Breeze, William	Apprentice	2/- per day	Transferred from extra staff
15 ,,	Baines, John	Foreman cleaner	8/- per day	
15 ,,	Dearing, Edward	Fuelman	7/- per day	
15 ,,	Lee, George T.	Cleaner	7/- per day	
15 ,,	Sheppheard, Henry	Fuelman	6/6 per day	
15 ,,	Bottrill, Frederick C.	Shop boy	1/9 per day	*Vice* R. Tyson.
15 ,,	Berg, Carl O.	Apprentice	10d per day	*Vice* A. Belt
18 ,,	Bruce, George H	Apprentice	10d. per day	*Vice* E. Hume
18 ,,	Hay, Edward A.	Apprentice	10d per day	*Vice* J Newman.
20 ,,	Kenny, Francis	Shop boy	1/9 per day	*Vice* P. Fisher.
22 ,,	Williams, Enoch	Labourer	7/- per day	
22 ,,	Ashton, Arthur	Telephone boy	2/6 per day	
29 ,,	Laycock, Williamson	Labourer	8/- per day	
29 ,,	Neal, William James	Striker	7/- per day	
29 ,,	Love, William	Painter's assistant	7/- per day	Transferred from extra staff
29 ,,	Townend, Benjamin	Painter's assistant	7/- per day	
5 June.	Gee, George	Fitter	10/ per day	
12 ,,	Townend, William H.	Labourer	6/6 per day	
1895.		CHIEF TRAFFIC MANAGER'S BRANCH		
1 July.	McCormack, James	Gatekeeper	5/- per week	At Burrangong.
2 ,,	Dunne, James H.	Junior porter	5/- per day	Reinstated.
2 ,,	Seery, Ellen	Gatekeeper	Free house	*Vice* A Costello.
2 ,,	Morgan, Leslie	Junior porter	4/2 per day	*Vice* W. A Crane
4 ,,	Clark, Albion	Gatekeeper	15/ per week	*Vice* J. Prentice.
4 ,,	Dwyer, James B.	Probationer	10/- per week	At Berry
5 ,,	Bowen, Joseph	Gatekeeper	10/- per week.	*Vice* J Williams.
10 ,,	Braithwaite, Mrs.	Gatekeeper	7/- per week and house.	*Vice* Mrs. E. Carey.
13 ,,	Markham, Jessie	Gatekeeper	Free house	*Vice* J. Golding.
17 ,,	Percy, Henry C.	Telephone boy	10/- per week.	At Hamilton
17 ,,	White, Francis J.	Junior porter	2/6 per day	*Vice* F Mulheron, to Toowong
22 ,,	Lusher, Augustus	Junior porter	2/6 per day	*Vice* D. Darcy, to Croydon.
26 ,,	Benson, Percy G.	Telephone boy	10/- per week	*Vice* C M'Connille.
28 ,,	McFarlane, Ann	Gatekeeper	7/- per week	*Vice* L. Nicholls.
30 ,,	Hast, Lucy	Gatekeeper	7/- per week	*Vice* J Bowen.
31 ,,	Nicholls, Mrs.	Gatekeeper	Free house	*Vice* E. Day.
4 Aug.	Dunne, Thomas P	Gatekeeper	10/ per week	At Scone.
5 ,,	Hicks, Ernest	Junior porter	3/4 per day	*Vice* S. Prendergast.
6 ,,	Pope, John H.	Telephone boy	10/- per week	*Vice* J. M'Mahon.
7 ,,	Bowen, Joseph	Gatekeeper	7/- per week	*Vice* L. Hast
17 ,,	Clark, Martha	Gatekeeper	Free house	*Vice* K. M'Callum.
19 ,,	Smith, Mary	Gatekeeper	Free house	*Vice* V. Woolfe.
19 ,,	Chivers, Lawson	Telegraph probationer	2/6 per week	At Boggabri.
20 ,,	Reid, Charles	Gatekeeper	Free house	*Vice* A. Reid.
21 ,,	Bevan, Henry G	Telephone boy	10/- per week	*Vice* A Glynn
23 ,,	Treloar, Elizabeth	Gatekeeper	15/- per week and house.	*Vice* W. Maguire.
4 Sept.	Morahan, Alfred	Telegraph probationer	2/6 per week	At Orange.
9 ,,	Hartigan, John	Junior porter	3/4 per day	*Vice* E Simpson.
10 ,,	Pryer, Margaret	Gatekeeper	7/ per week	*Vice* M. Creevy.
12 ,,	Williams, Anne	Gatekeeper	7/- per week	*Vice* M Tillitzki.
16 ,,	Alport, Anne	Gatekeeper	Free house	*Vice* E Prendergast.
20 ,,	M'Mahon, John	Gatekeeper	15/- per week	*Vice* J. Thomas
23 ,,	Cleaver, Isabella	Station caretaker	Free house	*Vice* E Harris
8 Oct	Seddon, James.	Telephone boy	10/- per week	*Vice* W. Garland.
11 ,,	Platt, Adam	Telephone boy	10/- per week	*Vice* G. Everist.
14 ,,	Kendrick, Mrs.	Gatekeeper and station caretaker.	£5 per annum and free house	*Vice* C. Hess.
14 ,,	Noonan, Mary	Station caretaker	Free house	*Vice* M Hardy.
14 ,,	Burrows, John	Gatekeeper	30/- per week	At Blackheath.
15 ,,	Fagan, Michael	Telegraph probationer	2/6 per week	*Vice* P. O'Sullivan.
16 ,,	Smith, Thomas	Gatekeeper	15/- per week	*Vice* J P Meehan
16 ,,	Shepherd, Henry	Telephone boy	10/- per week	*Vice* E. Nevin
18 ,,	Corry, Phillip	Telegraph probationer.	5/ per week	*Vice* S Weaver.
18 ,,	Moores, William	Telephone boy	10/- per week	*Vice* J. Gordon
18 ,,	Pettendrigh, Minnie	Gatekeeper	10/- per week	*Vice* A M'Lennan.
21 ,,	Watts, Minnie	Gatekeeper	Free house	At Millthorpe
23 ,,	Crossman, Richard	Telephone boy	10/- per week	*Vice* J Salmon.
25 ,,	Davis, Matilda	Gatekeeper	7/- per week and free house.	At Chatswood

APPENDIX XXVII—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		CHIEF TRAFFIC MANAGER'S BRANCH—*continued.*		
1895.				
29 Oct.	Donn, Grace	Gatekeeper	Free house	*Vice* E. Parry.
30 ,,	O'Brien, Mrs.	Ladies' attendant	12/6 per week	*Vice* E. Brown.
31 ,,	Murray, Mrs.	Gatekeeper	7/- per week and free house	*Vice* E. Brown.
31 ,,	Parker, Arthur	Gatekeeper	10/- per week	*Vice* P. Geary.
1 Nov.	Noble, Harvey	Apprentice clerk	£30 per annum	At Penrith.
1 ,,	Blackett, Sarah	Gatekeeper	7/ per week	*Vice* M. Pryer.
6 ,,	Watson, William	Apprentice clerk	£30 per annum.	*Vice* G. Brown.
11 ,,	Johnson, Arthur	Telephone boy	10/- per week	*Vice* P. Benson, to Thirlmere.
11 ,,	Henson, Arthur	Junior porter	3/4 per day	*Vice* W. Poll
15 ,,	Hunter, Martha	Gatekeeper	7 6 per week	*Vice* M. Lynch.
21 ,,	Kenna, Timothy	Gatekeeper	15/ per week	*Vice* G. James.
22 ,,	Hamlin, Walter	Telephone boy	10/- per week	*Vice* A. Dauncey.
25 ,,	Stacey, Edward	Telegraph probationer	2/6 per week	At Capertee.
29 ,,	Priest, Margaret	Station caretaker	£5 per annum and free house.	*Vice* M. Stewart.
2 Dec.	Hurd, Jane	Gatekeeper	10/- per week	At Bay-street, Rockdale.
5 ,,	Rowe, Ross	Telephone boy	10/- per week	*Vice* C. Wright.
5 ,,	Pardoe, John	Telephone boy	10/- per week	*Vice* J. Brinckley.
6 ,,	Bennett, Arthur	Office boy	10/- per week	At Bourke.
11 ,,	Conradi, Samuel	Telegraph probationer	2/6 per week	At Picton.
11 ,,	Purtill, Mrs.	Gatekeeper	Free house	*Vice* A. Alport.
13 ,,	Moon, Thomas	Telephone boy	10/- per week	*Vice* C. Price.
14 ,,	Wolfenden, Edgar	Apprentice clerk	£30 per annum	*Vice* F. Treacy.
14 ,,	Sullivan, William	Telegraph probationer	2/6 per week	At Narrandera.
17 ,,	Simpson, Henry	Telegraph probationer	2/6 per week	At Nyngan.
17 ,,	Foster, Mrs.	Gatekeeper	7/- per week	*Vice* Mrs White
18 ,,	Wolfenden, Leslie	Telephone boy	10/- per week	*Vice* T. Jones.
18 ,,	Scotney, George	Telephone boy	10/ per week	*Vice* M. Fox.
23 ,,	O'Meara, Michael	Gatekeeper	15/ per week	*Vice* W Dargan.
23 ,,	Meeks, Rose	Barrack attendant	12/6 per week	*Vice* M Wall.
26 ,,	Sargeant, John	Gatekeeper	15/- per week	*Vice* J Hurd
28 ,,	Thomas, Bridget	Gatekeeper	7/- per week	*Vice* M. Shirley.
30 ,,	Lawrence, Mrs.	Gatekeeper	7/- per week	*Vice* J. Farnie
31 ,,	Artlett, William	Apprentice clerk	£30 per annum	*Vice* W. Pollard.
1896.				
16 Jan...	Fulford, Arthur	Junior porter	2/6 per day	*Vice* T Buchanan.
17 ,,	Norman, Arthur	Junior porter and gatekeeper.	2/6 per day	*Vice* S. Dunne
17 ,,	Dwyer, Ellen	Gatekeeper	Free house	*Vice* N. O'Brien.
20 ,,	Cusack, Mary	Station caretaker	2/6 per week and free house	At Murwillumbah.
21 ,,	Wilson, William	Porter	7/- per day	*Vice* W. Cherry.
24 ,,	Minch, Mrs Mary	Gatekeeper	10/ per week	*Vice* J Sargent.
30 ,,	Scanlon, William	Porter	7 - per day	Reinstated, *vice* E. McGarrigle.
31 ,,	Stewart, Bruce	Assistant berthing master.	9/- per day	*Vice* J. Paton.
3 Feb...	Hainsworth, Hugh	Junior porter	2/6 per day	*Vice* J Chin.
3 ,,	Nicholls, Elizabeth	Gatekeeper	7/- per week	At Galong.
7 ,,	Smith, William	Postal assistant	10/- per week	*Vice* A. Norton.
7 ,,	Steenson, William	Junior porter	2/6 per day	At Lismore.
7 ,,	Layton, Walter	Junior porter	2/6 per day	*Vice* J. Blenkinsopp.
10 ,,	O'Regan, Joseph	Junior porter	3/4 per day	*Vice* J. Smethurst.
11 ,,	Stone, Charles	Junior porter	2 6 per day	*Vice* A Wellington.
13 ,,	Marshall, Mrs. E.	Gatekeeper	7/- per week	*Vice* F. Robinson.
14 ,,	Ormsby, Gore	Telegraph probationer	2 6 per week	*Vice* E. Broderick.
17 ,,	D'Arcy, John	Junior porter	2/6 per day	*Vice* J. Bowes.
18 ,,	Muir, William	Telegraph probationer	2/6 per week	*Vice* R. Kerr.
18 ,,	Cottingham, Francis	Telegraph probationer	2 6 per week	*Vice* C. Roche.
18 ,,	Watts, Joseph	Junior porter	2/6 per day	*Vice* G. Tracy.
18 ,,	Nesbitt, Elizabeth	Gatekeeper	Free house	*Vice* J. Stumbles
20 ,,	Doig, Ada	Gatekeeper	7/- per week	*Vice* R. Olsson
20 ,,	Whiteoak, Thomas	Junior porter	2 6 per day	*Vice* G. Diamond.
24 ,,	Dent, Samuel	Apprentice clerk	£30 per annum	*Vice* E. Paddison.
26 ,,	Cook, George	Junior porter	2/6 per day	*Vice* P. Roberts.
26 ,,	Roffe, Jane	Gatekeeper	Free house	*Vice* J. West.
28 ,,	Carberry, Edward	Junior porter	2/6 per day	*Vice* J. Harris.
29 ,,	Fullerton, James	Junior porter and gatekeeper.	2 6 per day	*Vice* F. West.
29 ,,	Baxter, Mary	Gatekeeper	Free house	*Vice* R. Baxter.
2 Mar..	Cavanough, Wesley	Telegraph probationer	2/6 per week	At Bungendore.
2 ,,	Spence, Arthur	Junior porter	5/- per day	*Vice* W Walsh.
4 ,,	Montgomery, Alexander	Junior porter	2/6 per day	*Vice* A. Heaton.
4 ,,	Jones, Elizabeth	Gatekeeper	Free house	*Vice* S. Grant.
7 ,,	Hansen, Clara	Gatekeeper	7/6 per week	*Vice* A Potter.
11 ,,	Owen, Mrs Agnes	Gatekeeper	Free house	*Vice* Mrs. Fuller.
12 ,,	Summergreen, Mary	Gatekeeper	7/- per week & free house.	*Vice* K. Ferrario.
16 ,,	Roche, Charles	Junior porter	5/- per day	Reinstated, *vice* C. Herring.
20 ,,	Egan, Alice	Gatekeeper	Free house	*Vice* R. Smith.
20 ,,	M'Lennan, Annie	Gatekeeper	10 - per week	*Vice* M. Pittendrigh.
21 ,,	Westall, Robert	Junior porter	2/6 per day	*Vice* G. Horan.
23 ,,	Hilderbrand, Clara	Station caretaker	5/- per week	At Barber's Creek.
25 ,,	Chicken, William	Junior porter	2/6 per day	*Vice* E Smith
25 ,,	Tait, John	Junior porter	2/6 per day	*Vice* W. Attwell.
25 ,,	Cahill, Elizabeth	Gatekeeper	10/ per week	*Vice* M. Cahill
25 ,,	Hyslop, William J.	Junior porter	2 6 per day	*Vice* J. Bromilow.
25 ,,	M'Kenzie, George	Junior porter	2/6 per day	*Vice* W. Clarke
25 ,,	Ross, John	Junior porter	4/2 per day	*Vice* F. Hawkins.
25 ,,	Adlide, William	Junior porter	2/6 per day	*Vice* S Smith
25 ,,	Carpenter, Frederick	Apprentice clerk	£30 per annum	*Vice* W. Lucas
25 ,,	Bone, Herbert W	Junior porter	2/6 per day	*Vice* C Castleman.
30 ,,	Schofield, John W.	Telephone boy	10 - per week	*Vice* J. Seddon
31 ,,	Gorman, George	Junior porter	2/6 per day	*Vice* J Richardson
31 ,,	Wardell, Montague	Junior porter	2/6 per day	*Vice* H M'Dougall.
31 ,,	Lecky, James	Porter	6/- per day	*Vice* J. Cardell.
1 April	Fisher, Frederick A.	Junior porter	2/6 per day	*Vice* F. Ambrosoli.
1 ,,	Dickey, Leslie R.	Junior porter	2/6 per day	*Vice* S. Frew.
1 ,,	Carson, Albert E. G.	Junior porter	2/6 per day	*Vice* F. Porter.
1 ,,	Milligan, Robert	Junior porter	2/6 per day	*Vice* T Crook.
2 ,,	Moore, Richard	Telegraph probationer	2/6 per week	*Vice* G Sanderson.
3 ,,	Ellis, Mary	Gatekeeper	7/- per week	*Vice* A. Ellis
3 ,,	Bragg, Arthur	Junior porter	2/6 per day	*Vice* T. Hughes.
9 ,,	Yandell, Kate	Gatekeeper	7/ per week	*Vice* M Yandell.
9 ,,	Ross, Arthur E.	Telephone boy	10 - per week	*Vice* W. Forward.
10 ,,	Lovett, Cecil	Junior porter	4/2 per day	*Vice* H Cox.
10 ,,	Alcock, Ernest	Gatekeeper	15 - per week	*Vice* J. Philson.
13 ,,	Trethewav, John	Junior porter	2/6 per day	*Vice* H. Owen.
14 ,,	Burns, Andrew	Porter	7/6 per day	Reinstated.
17 ,,	Fennell, John	Telephone boy	10/- per week	*Vice* G. Thomas
17 ,,	M'Dara, Kate	Gatekeeper	7/- per week	*Vice* K Yandell.
21 ,,	Bonamy, Henry	Telephone boy	10 - per week	*Vice* J M'Caffery.
24 ,,	Maskell, Mrs Alice	Gatekeeper	Free house	*Vice* Mrs Brown.
24 ,,	Shaw, John	Gatekeeper	15/- per week	*Vice* F. M'Grath.
24 ,,	Cooper, Thomas	Gatekeeper	15/ per week	*Vice* J Collumb.
26 ,,	Sainsbury, Rose	Gatekeeper	7/- per week	*Vice* H Smith.
27 ,,	Percy, Arthur	Telegraph probationer	2/6 per week	*Vice* R. M'Farlane.

APPENDIX XXVII—*continued.*

Date	Name	Position	Rate	Remarks
		CHIEF TRAFFIC MANAGER'S BRANCH—*continued*		
1896				
27 April	Ralph, Joseph	Gatekeeper	15/ per week	*Vice* W Scanlon
29 ,,	Smith, Anne	Gatekeeper	7/ per week	*Vice* S Jamieson
4 May	Melville, Donald	Junior porter	2 6 per day	*Vice* G Johnson
4 ,,	Kelhear, Louisa	Gatekeeper	Free house	*Vice* L Burns
5 ,,	Lynch, Horace	Apprentice clerk	£30 per annum	*Vice* F Carpenter
6 ,,	Walker, Frederick	Junior porter	2 6 per day	*Vice* H Nolan
11 ,,	Rowe, Ira	Telegraph probationer	2/6 per week	*Vice* J Attwill
15 ,,	Wallace, Margaret	Gatekeeper	7 per week	*Vice* J Clarke
15 ,,	Campey, William	Telegraph probationer	2/6 per week	*Vice* W Shaw
16 ,,	Moss, Wilfred	Junior porter	2 6 per day	*Vice* F Dent
18 ,,	Skinner, James	Telephone boy	10/ per week	*Vice* H Hunter
18 ,,	Cairns, James	Gatekeeper	Free house	*Vice* A Cairns
20 ,,	Corrigan, Burton	Porter	7/ per day	Reinstated
25 ,,	Toohey, Sarah	Gatekeeper	Free house	*Vice* M Lucas
29 ,,	Smith, William	Telephone boy	10 per week	*Vice* A Davies
29 ,,	Hayes, Margaret	Gatekeeper	7/ per week	At Campbelltown
29 ,,	Barclay, Anne	Platform attendant	5/ per week	At Sodwalls
29 ,,	Clatworthy, Mrs Lynah	Platform attendant	5 per week	At Portland Siding
29 ,,	Guthrie, Mary	Gatekeeper	Free house	*Vice* E Harding
29 ,,	Watson, Edwin	Junior porter	3/4 per day	*Vice* J Magennis
30 ,,	Caffery, Mrs Alice	Gatekeeper	Free house	*Vice* E Messer
1 June	Chapman, Annie	Platform attendant	£15 per annum	At Burradoo
4 ,,	Paull, Martin	Junior messenger	2 6 per day	*Vice* C Sheppard
4 ,,	Hatherley, Joseph	Junior porter	2 6 per day	*Vice* J Miller
5 ,,	Lowe, Geo	Shunter	7/ per day	*Vice* S Stumbles
10 ,,	Hartigan, Maurice	Telegraph probationer	2/6 per week	*Vice* J Dunne
10 ,,	Haslam, Frederick	Junior porter	2 6 per day	*Vice* J Taylor
12 ,,	Hooker, Sarah	Gatekeeper	7/ per week	*Vice* S M Donald
12 ,,	Ravaillion, Matte	Gatekeeper	7/ per week	*Vice* E Wilmott
12 ,,	Keith, William	Junior porter	2/6 per day	*Vice* W Roohan
12 ,,	Sullivan, William	Telegraph probationer	2 6 per week	At Narrandera
15 ,,	Pringle, Ralph	Telegraph probationer	2 6 per week	*Vice* B Haslam
16 ,,	Connell, Bridget	Gatekeeper	Free house	*Vice* G Doyle
18 ,,	Leslie, William	Telegraph probationer	2/6 per week	*Vice* A Smith
22 ,,	Smith, Sidney	Telegraph probationer	2/6 per week	*Vice* S Kerr
24 ,,	Milligan, Alexander	Gatekeeper	15/ per week	*Vice* J Dalzell
24 ,,	Mulheron, Denis	Junior porter	2 6 per day	*Vice* W Sutcliffe
		SIGNAL AND INTERLOCKING BRANCH		
1895				
23 Aug	M'Kay, Samuel	Labourer	7/6 per day	Transferred from Extra Staff
24 Oct	Haines, William	Patternmaker	10/ per day	*Vice* E Chandler.
1896				
14 Feb	Caldwell John	Signal fitter	9/ per day	
14 ,,	Currie, William	Signal fitter	10/ per day	
21 ,,	Pilcher, Charles	Fitter	10 8 per day	
21 ,,	Whitehead William	Fitter	10/ per day	
21 ,,	Rigg, Walter	Turner	10/ per day	
21 ,,	Dawson Stephen	Labourer	7/ per day	
21 ,,	Granger, John	Labourer	7/ per day	
21 ,,	Lord, Henry	Striker	7/6 per day	Transferred from Extra Staff
21 ,,	Mills, Charles	Labourer	8 per day	
21 ,,	Watt, Alfred	Labourer	7/6 per day	
21 ,,	Adams, William	Assistant signal fitter	8 per day	
21 ,,	Hudson, Amos	Signal fitter	10/ per day	
21 ,,	Cater, Enos	Labourer	7/6 per day	
21 ,,	Poole, Arthur	Labourer	7/6 per day	
6 Mar	Notman, William	Driller	7/6 per day	
6 ,,	Richards, Charles	Labourer	7/6 per day	
11 ,,	Hodgson, Joseph	Labourer	7/6 per day	Re employed, *vice* C Thompson
17 April	Rapp, James	Fitter's improver	4/ per day	
17 ,,	Dredge, William	Spike boy	3/ per day	
17 ,,	Martin, William J	Boy assistant	2/3 per day	
17 ,,	Duckett, William	Boy assistant	2/ per day	
17 ,,	Clinch, Keith	Boy assistant	1/9 per day	
15 May	Pitkethley, John S	Boy assistant	3 per day	
15 ,,	Grimshaw, Henry	Apprentice	3/ per day	
15 ,,	Mitchell, Thomas J	Boy assistant	2 6 per day	Transferred from extra staff
15 ,,	Harrington, Edward	Boy assistant	2 6 per day	
12 June	Robson, Ernest	Fitter's improver	8/ per day	
12 ,,	Watt, Henry J O	Coop repairer	8 6 per day	
12 ,,	Boylen, William	Apprentice	5/ per day	
12 ,,	Kegg, Alexander	Apprentice	5/ per day	
12 ,,	Young, George	Furnace attendant	6 per day	
12 ,,	Patterson, Edward	Lad, assistant to painter	5/ per day	
		ELECTRICAL ENGINEERS BRANCH		
1896				
7 Feb	Creighton, John	Electric light engineman	10/ per day	*Vice* G Placide
17 April	Millar, Herbert	Telegraph messenger	2 per day	
17 ,,	Maloney, Horace	Telegraph messenger	1/8 per day	
17 ,,	Green, Arthur	Telegraph messenger	1/8 per day	
17 ,,	Brown, Horace	Switcher	2/ per day	
17 ,,	Waring, Horace	Switcher	1/8 per day	
17 ,,	Stevens, Arthur	Telegraph messenger	1/8 per day	
17 ,,	Hancox, Samuel	Electrical cadet	1/9 per day	
17 ,,	Brown, Watkin	Electrical cadet	1/9 per day	
17 ,,	Bass, Richmond	Electrical cadet	1/9 per day	
17 ,,	Cliff, Richard	Electrical cadet	1/8 per day	
17 ,,	Lowrey, Ernest	Telegraph messenger	1/8 per day	
17 ,,	Morphy, John T	Probationer	2/6 per week	
17 ,,	Jones, Robert	Messenger	9/ per week	
17 ,,	Fraser, Sidney L	Telegraph messenger	2/ per day	
17 ,,	Coote William C	Telegraph messenger	1 8 per day	Transferred from extra staff
17 ,,	Morrison William C	Telegraph messenger	2/ per day	
29 May	Woollet, Marcus	Telegraph messenger	3/7 per day	
29 ,,	Barton, Walter	District Inspector	7/ per day	
29 ,,	Close, Alfred	Junior fitter	5/6 per day	
29 ,,	Tidswell, Frederick	Junior fitter	3 6 per day	
29 ,,	Neale, James C	Junior fitter	3 6 per day	
29 ,,	Charlton, William	Junior fitter	3 6 per day	
29 ,,	Wickham, Cecil	Junior fitter	4 6 per day	
29 ,,	Scott, John L	District Inspector	8 per day	
29 ,,	Thaeter, Herman	District Inspector	9/ per day	
29 ,,	M Guinness, John	Probationer	2 6 per week	
29 ,,	Higgs, Edward	Junior fitter	4 6 per day	
29 ,,	Luke, Henry J	District Inspector	8 6 per day	
1 June	Coogan, Claude C	Apprentice clerk	£30 per annum	
		COMPTROLLER OF STORES BRANCH		
1895				
2 Sept	Sheridan, Thomas V	Office boy	10/ per week	*Vice* G H M'Cauley
23 Oct	Taylor, Benjamin J	Store boy	2/3 per day	*Vice* R Harrington
1896				
1 Jan	Ramsden Ewart D	Apprentice Clerk	£30 per annum	*Vice* J Crickard
26 May	Clarke, William A	Apprentice clerk	£30 per annum	*Vice* T Sheridan

APPENDIX XXVII—*continued.*

Tramway Employés.

Tramways—Locomotive Branch

Date	Name	Position	Rate	Remarks
1895				
9 July	M'Gowan Ernest	Shop boy	2/6 per day	*Vice* R Brown
9 Aug	Mullins, Edgar F	Boy pulley oiler	2/3 per day	*Vice* J Dixon
2 Oct	Ryan, John	Boy assistant	2/6 per day	*Vice* W May
10 ,,	Barnes, James	Boy assistant	4/ per day	*Vice* P Ryan
9 Nov	Keating, William	Boy assistant	2/6 per day	*Vice* W Fleming
12 ,,	Sheaves, John	Labourer	6/6 per day	*Vice* T W Smith
21 ,,	M'Leay, Edward D	Boy labourer	4/ per day	*Vice* D M Leay
5 Dec	Scott, Harry R	Apprentice	10d per day	*Vice* J G Bryant
6 ,,	Perrau, William	Fireman	7/6 per day	*Vice* G Wellet
1896				
21 Jan	Gibbeson, Frederick	Shop boy	2/3 per day	*Vice* J Antoine
12 Feb	Lindsay, Edward S	Apprentice	10d per day	*Vice* J Vincent
14 ,,	Dear, Joseph E	Shop boy	4 per day	Transferred from extra staff
14 ,,	Doyle, Joseph	Labourer	7/ per day	*Vice* J Doody
14 ,,	M'Keown, William F	Fireman	7/6 per day	Transferred from extra staff
14 ,,	Duke, Alfred	Cleaner	6/6 per night	*Vice* W Campbell
14 ,,	Paterson, Arthur A	Cleaner	6/6 per night	*Vice* J Linsley
27 Mar	Williams, Herbert	Apprentice	10d per day	
27 ,,	Howarth, Hirah S	Apprentice	2/ per day	
27 ,,	Ford, James	Apprentice	1/3 per day	
27 ,,	McRae, John	Apprentice	1/3 per day	
27 ,,	Hodge, Frederick	Apprentice	2/ per day	
27 ,,	Bruce, John L	Apprentice	1/3 per day	
27 ,,	Lewis, Joseph	Apprentice	1/3 per day	
27 ,,	Boxall, Edward	Shop boy	3/ per day	
27 ,,	Sheridan, John B	Shop boy	2/6 per day	
27 ,,	Logan, Gavin	Shop boy	2 3 per day	
27 ,,	Raymond, Frederick	Shop boy	2/6 per day	
27 ,,	Neaves, Sydney R	Shop boy	3 per day	
27 ,,	Londrigan, John J	Shop boy	4/ per day	
27 ,,	Hubbard, Charles	Shop boy	4/ per day	
27 ,,	M'Intosh, Charles A	Shop boy	3/ per day	
27 ,,	Edwards, Henry J	Shop boy	2/6 per day	Transferred from extra staff
27 ,,	Patterson, Henry E	Shop boy	4/ per day	
27 ,,	Price, Edward	Labourer	6/6 per day	
27 ,,	Wallace, James	Boy assistant	4/ per day	
27 ,,	Davis, William J	Boy assistant	3/ per day	
27 ,,	Boyd, James L	Boy assistant	2 6 per day	
27 ,,	Strachan, John E	Boy assistant	3/ per day	
27 ,,	Devery, James	Boy assistant	4/ per day	
27 ,,	Osmond, Henry S	Boy assistant	3/ per day	
27 ,,	Macnab, Francis	Fitter	9/6 per day	
27 ,,	Bendall, William	Assistant oiler	5/ per day	
27 ,,	Clarke, George H	Assistant oiler	4/ per day	
27 ,,	Harrington, Daniel	Cleaner	5/6 per night	
27 ,,	Ragan, James	Cleaner	5/6 per night	
27 ,,	Moran John J	Cleaner	5/6 per night	
27 ,,	O Keefe, Edward G	Cleaner	5/6 per night	
1 April	O Connor, William	Cleaner	4/6 per night	
1 ,,	Clapham, John B	Cleaner	4/6 per night	
1 ,,	Crowe, Thomas P	Cleaner	3/9 per night	
1 ,,	Sparkes, Sydney H	Cleaner	3/ per night	
1 ,,	Foster, George	Cleaner	3 9 per night	Extra service, Waverley and Bondi Line
1 ,,	Tyler, William H	Cleaner	3/9 per night	
3 ,,	Parker, William H	Cleaner	3/9 per night	
3 ,,	Newlands, Stephen	Cleaner	3/ per night	
3 ,,	Moyle, Arthur G	Cleaner	3/ per night	
3 ,,	Stanley, Edward P	Cleaner	4/6 per night	
3 ,,	Clark, John S	Apprentice	10d per day	*Vice* W Timbrell
10 ,,	Whatley, James	Fireman	7/6 per day	
10 ,,	Lee, Frederick H	Cleaner	6/ per night	Transferred from extra staff
10 ,,	Juleff, James E	Fireman	7/6 per day	
22 ,,	Fletcher, John H	Boy assistant	2/3 per day	*Vice* A Frappell
24 ,,	Noon, Frederick W	Cleaner	6/6 per night	
24 ,,	Turner, Charles A	Fireman	7/6 per day	
24 ,,	Dodds, Fenwick	Fireman	7/6 per day	
24 ,,	Dawson, Edward C	Fireman	7/6 per day	
24 ,,	Hocking, Richard	Fireman	7/6 per day	
24 ,,	Bellerby, John W	Fireman	7/6 per day	Transferred from extra staff
24 ,,	Vaughan Henry B	Shop boy	3/ per day	
8 May	Evans, Richard M	Cleaner	6/6 per night	
8 ,,	Toby, Richard C	Fireman	7/6 per day	
8 ,,	Finch, William	Fireman	7/6 per day	
8 ,,	Walton, John H	Fireman	7/6 per day	
8 ,,	Perkins, Walter	Fireman	7/6 per day	
10 ,,	Radford, Benjamin C	Assistant oiler	2/6 per day	*Vice* W O Maley
22 ,,	Cameron, Neil	Lamp trimmer	6/6 per day	*Vice* J Millington
5 June	Barker, Frank	Cleaner	6/ per night	
5 ,,	Forrest, Henry Wm	Car builder	8/8 per day	
5 ,,	Austin, Percy G	Cleaner	6/6 per night	
5 ,,	M Cracken, Robert	Cleaner	6 6 per night	Transferred from extra staff
5 ,,	M'Vie, Alfred E	Fireman	7/6 per day	
19 ,,	Potter, Charles	Fireman	7/6 per day	
19 ,,	M'Lean, Alexander	Cleaner	6/ per night	
19 ,,	Lee, Jeremiah J	Cleaner	7/6 per night	

Tramways—Traffic Branch

Date	Name	Position	Rate	Remarks
1895				
24 Oct	Haywood, Samuel P	Junior conductor	6/ per day	*Vice* H G Nunn
1896				
27 Jan	Baylis, Walter	Flagman	6 per day	*Vice* W Thick
4 Feb	Muir, John G S	Junior conductor	5/ per day	*Vice* J Blundell
10 April	Hagen, John P	Gripman	7/6 per day	
10 ,,	Parker, William	Conductor	6/6 per day	
10 ,,	Byrne, Austin	Car cleaner	6/- per day	
10 ,,	Byrnes, James	Gripman	7/6 per day	
24 ,,	Antoine, Joseph	Junior conductor	5/- per day	
24 ,,	Lewis, Frederick J	Gripman	7/6 per day	
24 ,,	Berry, Philip	Gripman	7/6 per day	
24 ,,	Croke, James J	Lamp trimmer	5/- per day	
8 May	Hampson, Henry F	Horse driver	7/- per day	
8 ,,	Wight, Dougald	Junior conductor	6/- per day	Transferred from extra staff
5 June	Gaudry, Roland	Junior conductor	7/- per day	
5 ,,	Smith, George	Horse driver	7/- per day	
5 ,,	Aitchison, David F	Junior conductor	6 - per day	
5 ,,	Kinsella Samuel	Junior conductor	6/6 per day	
5 ,,	Todhunter, John	Junior conductor	6 per day	
5 ,,	Hayes James	Car cleaner	6/ per day	
5 ,,	Jenkins, Edward	Point cleaner	7/ per day	
5 ,,	Swan, Ernest A	Gripman	7/6 per day	
19 ,,	Sheaves George	Junior conductor	6/ per day	

APPENDIX XXVII—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		TRAMWAYS—MAINTENANCE BRANCH.		
1896.				
28 Feb.	Ivory, William	Horse and Driver	11/- per day	*Vice* J. Andrews.
10 April	Flynn, Patrick	Labourer	7/6 per day	
10 ,,	Jones, Joseph	Labourer	7/- per day	
10 ,,	McNamara, Daniel	Labourer	7/6 per day	
10 ,,	Beazley, James	Labourer	7/6 per day	
19 ,,	M'Govern, Patrick	Labourer	7/6 per day	
19 ,,	Denihan, William	Labourer	7/- per day	
19 ,,	Curry, Patrick	Labourer	7/- per day	
19 ,,	Vaughan, William	Labourer	7/- per day	
19 ,,	Kenealy, Conel	Labourer	7/- per day	
19 ,,	Tidyman, Robert	Labourer	7/- per day	Transferred from extra staff.
19 ,,	King, Thomas	Labourer	7/- per day	
19 ,,	Harford, John	Carpenter	10/- per day	
19 ,,	Devlin, John	Messenger	5/- per day	
19 ,,	Brownie, George	Tool collector	2/6 per day	
24 ,,	Maher, Martin	Labourer	7/- per day	
24 ,,	Teege, Henry	Labourer	7/- per day	
24 ,,	Granville, Michael	Labourer	7/- per day	
24 ,,	Mahoney, Robert	Labourer	7/- per day	
8 May	Ostman, Mauritz	Fettler	7/- per day	

APPENDIX XXVIII.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

RETURN showing the Removals of Railway Employés from 1st July, 1895, to 30th June, 1896.

Date.	Name.	Position.	Rate.	Remarks.
		SECRETARY'S BRANCH.		
1895.				
14 Dec..	Garlick, John	Junior clerk	£100 per annum	Resigned.
		SOLICITOR'S BRANCH.		
1896.				
16 May..	Armitage, Chas. C.	Messenger	10/- per week	Discharged.
		CHIEF ACCOUNTANT'S BRANCH.		
1895.				
20 July.	Clement, Letitia	Housekeeper	27/- per week and quarters.	Retrenchment
1896.				
28 April	Langley, Fergus N.	Clerk	£220 per annum	Deceased.
		TRAFFIC AUDITOR'S BRANCH.		
1895.				
10 Aug.	Pearce, Richard T.	Ticket clerk	£150 per annum	Deceased.
31 Dec..	Mulholland, Phillip J.	Junior clerk	£100 per annum	Resigned.
1896.				
21 Mar..	Patterson, Thomas	Audit Inspector	£290 per annum	Resigned.
28 ,,	M'Keown, Sidney A.	Junior Clerk	£90 per annum.	Resigned.
28 April	Fowler, Norman	Apprentice clerk	£80 per annum	Resigned.
31 May..	Byrnes, James B.	Clerk	£185 per annum	Retired.
		ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.		
1895.				
3 July.	Lusher, Arthur	Fettler	7/6 per day	Deceased.
12 ,,	Vallender, George	Labourer	7/6 per day	Resigned.
29 Aug..	Chad, Alexander	Fettler	7/6 per day	Resigned.
4 Sept.	Cootes, Albert	Fettler	7/6 per day	Deceased.
5 ,,	Jones, John W.	Watchman	6/6 per day	Retired.
7 ,,	Sirkett, Frederick	Labourer	7/6 per day	Resigned.
22 ,,	Shepherd, James	Labourer	7/6 per day	Deceased.
30 ,,	Capponi, Antonio	Fettler	7/6 per day	Deceased.
7 Oct..	Wormleaton, Thomas	Fettler	7/6 per day	Deceased.
7 ,,	Marks, George	Labourer	7/6 per day	Retired.
9 ,,	Meeks, Robert	Fettler	7/6 per day	Deceased.
13 Nov..	M'Fadden, John	Fettler	7/6 per day	Discharged.
14 ,,	Wright, Alfred	Fettler	7/6 per day	Retrenchment.
18 ,,	Appleby, Joseph	Fettler	7/6 per day	Discharged.
6 Dec..	Field, Daniel	Labourer	7/6 per day	Deceased.
16 ,,	Kealey, Thomas	Fettler	7/6 per day	Deceased.
1896.				
1 Jan..	Smith, William	Ganger	9/- per day	Retired.
13 ,,	Nolan, Patrick J.	Fettler	7/- per day	Deceased.
14 ,,	Boyle, James	Ganger	8/6 per day	Deceased.
16 ,,	O'Leary, Denis	Fettler	7/6 per day	Deceased.
19 ,,	Mulheron, Michael	Fettler	7/6 per day	Deceased.
20 ,,	Flynn, Michael	Labourer	7/6 per day	Resigned.
20 ,,	Fanning, Michael	Fettler	7/6 per day	Deceased.
22 ,,	Whelan, William	Fettler	7/6 per day	Deceased.
24 ,,	Potter, William	Ganger	9/- per day	Deceased.
31 ,,	Day, Christopher	Labourer	7/6 per day	Resigned.
12 Feb..	Reed, William	Fettler	7/6 per day	Resigned.
12 ,,	Ferguson, John	Fettler	7/6 per day	Deceased.
13 ,,	Nutland, Worthy	Labourer	7/6 per day	Retired.
13 ,,	Wrigley, Joseph	Fettler	7/6 per day	Resigned.
5 Mar..	Robinson, Frederick	Office boy	4/- per day	Resigned.
6 ,,	Perkins, John	Labourer	7/6 per day	Resigned.
6 ,,	Clift, William	Labourer	7/- per day	Resigned.
9 ,,	Ogilvie, James	Fettler	7/6 per day	Retired.
13 ,,	Layton, James	Fettler	7/6 per day	Deceased.
14 ,,	O'Hara, Francis	Fettler	7/6 per day	Resigned.
13 April	Rowland, William	Labourer	7/- per day	Discharged.
14 ,,	Hewish, George	Labourer	7/6 per day	Discharged.
18 ,,	Ferry, Roger	Fettler	7/6 per day	Retired.
4 May.	Patterson, Henry	Fettler	7/6 per day	Discharged.
7 ,,	Hill, William	Fettler	7/6 per day	Discharged.
11 ,,	Wilson, James	Ganger	9/- per day	Discharged.
12 ,,	Reynolds, Henry	Fettler	7/6 per day	Retired.
22 ,,	Jenkins, John	Ganger	9/- per day	Discharged.
27 ,,	Harris, John	Ganger	9/- per day	Deceased.
30 ,,	Howell, Frank	Carpenter	8/- per day	Discharged.
31 ,,	Barrack, George	Inspector	£300 per annum	Retired.
31 ,,	Marshall, Alexander	Sub-Inspector	£230 per annum	Retired.
27 June.	Crawford, John	Carpenter	8/- per day	Deceased.

APPENDIX XXVIII—*continued.*

Date	Name	Position	Rate	Remarks
		CHIEF MECHANICAL ENGINEER'S BRANCH		
1895				
5 June	Hairsine, Alfred	Driver	15/ per day	Retired
1 July	Hyer, Louis	Labourer	7/6 per day	Discharged
17 ,,	Tate, Richard	Driver	14/ per day	Deceased
6 Aug	Hilton, Alfred	Cleaner	7/ per day	Resigned
7 ,,	Walker, Christopher	Painter	10 6 per day	Deceased
8 ,,	Burgess, Joshua	Blacksmith	10 8 per day	Deceased
9 ,,	Rooney, Thomas	Fireman	10/ per day	Deceased
30 ,,	Moon, Alfred	Painter	10/ per day	Deceased
18 Sept	M'Laughlin, Michael	Pumper	8/8 per day	Deceased
20 ,,	Chandler, Edward	Fitter	10/ per day	Discharged
21 ,,	Lachlan, Martin	Cleaner	7/ per day	Deceased
16 Oct	Higgins Henry	Labourer	7/ per day	Discharged
17 ,,	M'Intyre, John	Driver	15/ per day	Deceased
18 ,,	Hayes, John	Labourer	7/6 per day	Deceased
24 ,,	Waring, Thomas	Tube cleaner	7/ per day	Discharged
13 Nov	Williams, Lewis	Blacksmith	11/8 per day	Discharged
16 ,,	Bunker, William	Cleaner	5 6 per day	To Tramways
21 ,,	Pearce, Henry	Driver	14/ per day	Discharged
22 ,,	Dodd, Edward	Turner's improver	7 per day	Deceased
26 ,,	Dick, James	Blacksmith	10 2 per day	Discharged
5 Dec	Hendy, John R	Cleaner	7/ per day	Resigned
9 ,,	Glass, James	Examiner	8 per day	Discharged
19 ,,	Oliffe, Thomas	Fitter	14/ per day	Deceased
21 ,,	Reid, David	Boilermaker	12/2 per day	Resigned
3 Jan	Viney, Henry	Machinist	8/6 per day	Deceased
3 ,,	Speerin, John	Cleaner	7/ per day	Discharged
23 ,,	Fisher, Robert	Examiner	9/ per day	Deceased
24 ,,	Allen, William	Fireman	10/ per day	Discharged
4 Feb	Francis, William	Messenger	7/ per day	Deceased
4 ,,	Hunter, Robert	Labourer	7/ per day	Resigned
10 ,,	Mackel, James	Fireman	8/ per day	Discharged
13 ,,	Gorrie, David	Fireman	10/ per day	Deceased
20 ,,	Smith, Andrew	Fuelman	8/ per day	Deceased
25 ,,	Gray, Frederick	Boilermakers improver	7/ per day	Resigned
28 ,,	Pearce, William George	Turner	11 per day	Discharged
21 Mar	Beet, Ashby	Carriage builder	10 6 per day	Resigned
21 ,,	Grills, Richard	Boilermakers assistant	7/ per day	Resigned
28 ,,	Newman, John G	Cadet	5 per day	Resigned
28 ,,	Tyson, Richard	Shop boy	5/ day	Resigned
8 April	Hume, Edward	Fitter	10 per day	Resigned
9 ,,	Chapman Alfred	Fireman	10 per day	Discharged
20 ,,	Watts, William	Fitter	11/ per day	Deceased
25 ,,	Fisher, Peter	Shop boy	2/3 per day	Resigned
27 ,,	Newton Sydney	Labourer	7/6 per day	Retired
28 ,,	Sutton, Willoughby	Labourer	7/ per day	Resigned
7 May	Smith, William	Labourer	7/6 per day	Resigned
19 ,,	Thomson, Alfred	Fireman	10 per day	Discharged
3 June	M Inerney, Thomas	Driller	8/ per day	Deceased
11 ,,	Wickham, Robert	Driver	15/ per day	Deceased
12 ,,	Lee, John E	Head shunter	8/ per day	Resigned
13 ,,	Taylor William	Labourer	7/ per day	Left the Service
14 ,,	Menzies, John	Fitter	11 8 per day	Retired
19 ,,	M'Donald, Alexander ..	Wagon builder	10/ per day	Resigned
27 ,,	Gow, James F	Labourer	7/6 per day	Deceased
		CHIEF TRAFFIC MANAGER'S BRANCH		
1895				
29 June	Newbold, George	Porter	7/6 per day	Deceased
29 ,,	Sutherland, John	Porter	7/6 per day	Written off books
1 July	Prendergast, Stephen	Porter	7/ per day	Discharged
2 ,,	Costello, Ada	Gatekeeper	Free house	Resigned
6 ,,	M'Mahon, James	Porter	7/ per day	Discharged
9 ,,	Carey, Mrs E	Gatekeeper	7/ per week and house	Resigned
10 ,,	Holt, George	Station master	£200 per annum	To Tramways
11 ,,	Wilson, Joseph	Porter	7/ per day	Discharged
12 ,,	Golding, Jane	Gatekeeper	7/ per week and house	Discharged
12 ,,	Houston, John	Junior porter	5/ per day	Written off Books
22 ,,	Glynn Alexander	Porter	7/ per day	Discharged
27 ,,	Nicholls, Letitia	Gatekeeper	7/ per week	Discharged
29 ,,	Day, Elizabeth	Gatekeeper	Free house	Resigned
30 ,,	Bowen, Joseph	Gatekeeper	10/ per week	Discharged
1 Aug	Dicker, Henry	Clerk	£140 per ann	To Public Works Department
7 ,,	Maguire, Winifred	Gatekeeper	15/ per week & house	Deceased
9 ,,	Stewart, Edward A	Foreman shunter	10/6 per day	Deceased
16 ,,	McCallum, Kate	Gatekeeper	7/6 per week & house	Resigned
19 ,,	Woolfe, Violetta	Gatekeeper	Free house	Resigned
20 ,,	Reid, Ada	Gatekeeper	Free house	Deceased
22 ,,	Cobcroft, John	Gatekeeper	2/6 per week	Resigned
27 ,,	Hast, Lucy	Gatekeeper	7/ per week	Resigned
29 ,,	Ralph, Henry	Night officer	£140 per ann	Deceased
31 ,,	Kelly, John	Apprentice clerk	£70 per ann	Resigned
31 ,,	Hallett Percy	Night officer	£130 per ann	Discharged
1 Sept	Meehan, James P	Night officer	£130 per ann	Discharged
8 ,,	James George	Gatekeeper	15/ per week	Discharged
9 ,,	Simpson Edward	Junior porter	5/ per day	Discharged
10 ,,	Creevy, Mary	Gatekeeper	7/ per week	Resigned
11 ,,	Parry, Edith	Gatekeeper	Free house	Resigned
12 ,,	Tillitzki Miriam	Gatekeeper	7/ per week	Resigned
12 ,,	Brown, George	Clerk	£160 per annum	Deceased
15 ,,	Prendergast, Ellen	Gatekeeper	Free house	Resigned
17 ,,	Meadley, Grace	Station caretaker	5/ per week and house	Discharged
23 ,,	Harris, Emily	Station caretaker	Free house	Resigned
30 ,,	Bell, James	Station master	£300 per annum	Retired
30 ,,	Salmon, John	Junior porter	5/ per day	Resigned
29 ,,	Geary, Patrick	Porter	7/ per day	Discharged
8 Oct	Turner, James	Gatekeeper	15 per week	Deceased
8 ,,	Gordon, John	Junior porter	4/2 per day	Resigned
8 ,,	Jones, Thomas	Telephone boy	10/ per week	Resigned
11 ,,	Hardy, Mary	Station caretaker	Free house	Discharged
14 ,,	Hess, Catherine	Gatekeeper and station caretaker	£5 per ann and free house	Resigned
14 ,,	O Toole, James	Porter	7/ per day	Discharged
17 ,,	M'Lennan, Ann	Gatekeeper	10/ per week	Resigned
24 ,,	Lynch, Mary	Gatekeeper	7/6 per week	Resigned
30 ,,	Brown, Mrs Emma	Ladies attendant	25 per week	Resigned
31 ,,	Pryer, Mary	Gatekeeper	7 per week	Discharged
12 Nov	Paton, John	Berthing maste	£300 per ann £71 10 rent	Deceased

APPENDIX XXVIII—*continued*

Date	Name	Position	Rate	Remarks
1896		CHIEF TRAFFIC MANAGER'S BRANCH—*continued*		
18 Nov	Dargan, William	Porter	7/ per day	Discharged
27 ,,	Treacy, Francis	Junior clerk	£100 per ann	Resigned
28 ,,	Stewart, Mary	Station caretaker .	£5 per ann and house	Discharged
11 Dec	Alport, Ann	Gatekeeper	Free house	Resigned
17 ,,	Reed John	Gatekeeper	40 per week	Deceased
17 ,,	Dunne, Stephen	Junior porter	5/ per day	Deceased
17 ,,	Waters, Lydia	Station caretaker	Free house	Discharged
17 ,,	White, Mrs Catherine	Gatekeeper	7/ per week	Resigned
17 ,,	Stone, Benjamin	Porter	7/ per day	Discharged
17 ,,	Kerr, Thomas	Porter	7/ per day	Discharged
18 ,,	Shirley Mary	Gatekeeper	7/ per week	Resigned
26 ,,	Hurd, Jane	Gatekeeper	10 per week	Resigned
26 ,,	Farnie, Jane	Gatekeeper	7/ per week	Deceased
28 ,,	M'Grath, Francis	Junior porter	5/ per day	Resigned
31 ,,	Campion, Henry	Station master	£180 per ann	Retired
31 ,,	Noon Aaron	Guard	12/ per day	Retired
31 ,,	Blenkinsopp, John	Junior porter	5/ per day	Resigned
1896				
6 Jan	Collumb James	Night officer	£140 per ann	Discharged
6 ,,	Lucas, William	Night officer	£130 per ann	Deceased
13 ,,	Hainsworth Frederick	Guard	11/ per day	Deceased
15 ,,	Scanlon, William	Night officer	£130 per ann	Discharged
16 ,,	Roche, Charles	Junior Porter	5/ per day	Discharged
17 ,,	Squires, Herbert	Junior Clerk	£110 per ann	Discharged
17 ,,	O Brien, Nellie	Gatekeeper	Free house	Resigned
17 ,,	Chivers, Lawson	Telegraph Probationer	2/6 per week	Deceased
24 ,,	Sargent, John	Gatekeeper	15/ per week	Discharged
26 ,,	Byrnes, John	Officer in charge	£140 per ann	Resigned
2 Feb	West Frederick	Junior porter	5/ per day	Resigned
5 ,,	M'Garrigle, Edward	Shunter	7/6 per day	Resigned
5 ,,	Chin, James	Shunter	7 per day	Resigned
5 ,,	Stephens, Charles	Signalman	8/6 per day	Resigned
5 ,,	Bowes, Joseph	Porter	7/ per day	Resigned
6 ,,	Diamond, George	Shunter	8/ per day	Resigned
6 ,,	Heaton, Arthur	Porter	7/6 per day	Resigned
6 ,,	Hickey, Ernest	Night officer	£130 per ann	Resigned
6 ,,	Horan, George	Night officer	£130 per ann	Resigned
7 ,,	Harris, James	Porter	7/6 per day	Discharged
7 ,,	Roberts, Percy	Porter	7/ per day	Resigned
13 ,,	Cahill, Mrs Mary	Gatekeeper	10/ per week	Resigned
13 ,,	Robinson, Frances	Gatekeeper	7/ per week	Resigned
14 ,,	Spilsbury, John	Assistant guard	8/6 per day	Resigned
17 ,,	Minch Mary	Gatekeeper	10/ per week	Resigned
18 ,,	Stumbles Jane	Gatekeeper	Free house	Resigned
20 ,,	Cardell, John	Porter	6/ per day	Discharged
20 ,,	Olsson, Rebecca	Gatekeeper	7/ per week	Resigned
20 ,,	Cowley, Jessie	Station caretaker	Free house	Discharged
21 ,,	Paddison, Edward	Night officer	£130 per ann	Resigned
23 ,,	M'Donald, Neil	Special inquiry officer	7/ per day	Discharged
25 ,,	West, Julia	Gatekeeper	Free house	Resigned
25 ,,	Castleman, Charles	Porter	7/ per day	Resigned
27 ,,	Burns Andrew	Porter	7/6 per day	Discharged
27 ,,	Webster, Foster	Guard	10/6 per day	Discharged
29 ,,	Smith, Edward	Porter	7/ per day	Discharged
29 ,,	Attwell, William	Porter	7/ per day	Resigned
29 ,,	Baxter, Robert	Gatekeeper	Free house	Resigned
3 Mar	Herring Charles	Junior porter	4/2 per day	Discharged
4 ,,	Grant, Sophia	Gatekeeper	Free house	Resigned
6 ,,	Corrigan Burton	Porter	7 per day	Resigned
6 ,,	Bromilow Joseph	Porter	7/ per day	Resigned
6 ,,	Clarke, William	Junior porter	5/ per day	Resigned
7 ,,	Sanderson, George	Porter	8/ per day	Retired
7 ,,	Potter, Annie	Gatekeeper	7/6 per week	Resigned
9 ,,	Cox, Henry	Officer in charge	£150 per ann	Deceased
10 ,,	Farrell, Thomas	Junior porter	5/ per day	Discharged
10 ,,	Fuller, Mrs Grace	Gatekeeper	Free house	Discharged
13 ,,	Sutcliffe, William	Junior clerk	£90 per ann	Discharged
13 ,,	Jefford, Eustace	Night officer	£130 per ann	Resigned
13 ,,	Ferrario, Kate	Gatekeeper	10/ per week and free house	Resigned
15 ,,	Weedon, William	Clerk	£165 per ann	Retired
15 ,,	Philson, John	Gatekeeper	15/ per week	Discharged
16 ,,	Breeze, Archibald	Operator and clerk	£90 per ann	Discharged
19 ,,	M'Dougall, Henry	Porter	7/6 per day	Discharged
20 ,,	Pittendrigh, Minnie	Gatekeeper	10/ per week	Resigned
20 ,,	Smith, Rose	Gatekeeper	Free house	Discharged
31 ,,	Richardson, John	Night officer	£130 per ann	Resigned
2 April	Ellis, Annie	Gatekeeper	7/ per week	Deceased
8 ,,	Johnston, Susan	Gatekeeper	Free house	Discharged
8 ,,	Kennedy, Robert J	Night officer	£130 per annum	Resigned
8 ,,	Harding, Emma	Gatekeeper	Free house	Resigned
9 ,,	Yandell Mary	Gatekeeper	7/ per week	Deceased
9 ,,	Falkiner, Benjamin	Porter	7/ per day	Deceased
11 ,,	Hunter, Henry Thomas	Porter	6/ per day	Discharged
11 ,,	Shaw, William	Junior porter	3/4 per day	Resigned
13 ,,	Maguire, Catherine	Gatekeeper and caretaker	7/ per week and free house	Discharged
16 ,,	Yandell, Kate	Gatekeeper	7/ per week	Resigned
17 ,,	Kennedy, Arthur	Night officer	£130 per annum	Resigned
18 ,,	Nolan, Harold	Junior clerk	£75 per annum	Discharged
21 ,,	Smith, Arthur	Signalman	7/6 per day	Deceased
23 ,,	Smith, Harriet	Gatekeeper	7/ per week	Resigned
24 ,,	Brown, Mrs	Gatekeeper	Free house	Resigned
25 ,,	Foody, James	Stationmaster	£150 per annum and house	Discharged
26 ,,	Jamieson, Selina	Gatekeeper .	7/ per week	Resigned
27 ,,	Johnston, James	Porter	7/ per day	Deceased
28 ,,	Halloway, Charles	Junior clerk	£90 per annum	Resigned
28 ,,	Taylor, Mary	Gatekeeper	7/ per week	Deceased
30 ,,	Dean, James	Guard	10/ per day	Retired
4 May	Thew, John C	Porter	8/ per day	Deceased
4 ,,	Burns, Ellen	Gatekeeper	Free house	Resigned
4 ,,	Attwill, John	Operator	£90 per annum	Resigned
4 ,,	Davies, Reginald C	Junior clerk	£110 per annum	Resigned
4 ,,	Carpenter, Frederick	Apprentice clerk	£30 per annum	Discharged
6 ,,	M'Farlane, Robert	Junior clerk	£110 per annum	Resigned
6 ,,	Haslam, Benjamin	Stationmaster	£240 per annum and house	Deceased
7 ,,	Messer, Evelyn	Gatekeeper	Free house	Resigned
12 ,,	Brown, John	Porter	7/- per day	Discharged
12 ,,	Healey, William	Porter in charge	40/ per week and house	Discharged
13 ,,	Cooper, James	Shunter .	8/6 per day	Discharged
13 ,,	Parsons, George	Stationmaster	£225 per annum and house	Retired
14 ,,	Clarke, Jane . .	Gatekeeper	7/ per week	Resigned

APPENDIX XXVIII—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		CHIEF TRAFFIC MANAGER'S BRANCH—*continued.*		
1896.				
15 May	Cairns, Adelaide	Gatekeeper	Free house	Resigned
16 ,,	Theobald, Joseph	Night officer	£130 per annum	Discharged.
16 ,,	Carter, James	Porter	7/6 per day	Resigned
21 ,,	Sadler, William	Signalman	10/ per day	Retired.
21 ,,	Duff, Alexander	District Superintendent	£475 per annum and house	Deceased.
21 ,,	Magennis, Joseph J.	Junior porter	5/ per day	Resigned.
21 ,,	Anderson, Robert	Stationmaster	£216 per annum and house.	Retired.
25 ,,	Lucas, Margaret	Gatekeeper	Free house	Resigned.
26 ,,	Nash, Thomas	Porter	7/ per day	Deceased
27 ,,	Haynes, John	Junior clerk	£90 per annum	Resigned.
31 ,,	Miller, John	Apprentice clerk	£70 per annum	Resigned
31 ,,	Kerr, Samuel	Junior clerk	£90 per annum	Resigned.
1 June	Davies, Arthur	Junior porter	5/- per day	Resigned
4 ,,	Dunne, James	Telegraph probationer	2/6 per week	Discharged
11 ,,	M'Donald, Susan	Gatekeeper	7/- per week	Resigned
11 ,,	Wilmott, Elizabeth	Gatekeeper	7/ per week	Resigned.
16 ,,	Whitten, William	Night officer	£130 per annum	Deceased
16 ,,	Doyle, Grace	Gatekeeper	Free house	Resigned.
18 ,,	Costello, William	Junior porter	5/ per day	Resigned.
19 ,,	Lawes, Charles	Night officer	£180 per annum	Resigned
22 ,,	Sheppard, Charles	Operator	£80 per annum	Resigned
25 ,,	Bray, Elizabeth	Gatekeeper	Free house	Resigned.
27 ,,	Thomas, Mrs J. S.	Gatekeeper	Free house	Resigned.
27 ,,	Roohan, William	Gatekeeper	30/ per week	Retired
29 ,,	Crease, Alexander	Clerk	£170 per annum	Resigned.
		SIGNAL AND INTERLOCKING BRANCH		
1895				
27 Sep	Chandler, Ernest	Patternmaker	10/ per day	Resigned
1896				
11 Feb..	Evans, Ernest A	Fitter	12/- per day	Resigned.
9 Mar.	Thompson, Charles	Labourer	7/6 per day	Resigned
13 June	Brown, Peter	Signal fitter	8/6 per day	Resigned.
		ELECTRICAL ENGINEER'S BRANCH		
1896.				
7 Mar	Fabris, Edgar	District Inspector	8/- per day	Discharged.
30 April	Gray, David	Junior operator	£90 per annum	Resigned.
6 June	Clements, George F.	Electrical assistant	£225 per annum	Deceased
		COMPTROLLER OF STORES BRANCH.		
1895.				
31 Aug .	M'Cauley, George H	Apprentice clerk	£70 per annum	Retired, ill healt .
12 Oct .	Harrington, Roderick	Tallyman	8/6 per day	Deceased
31 Dec .	Crickard, James	Clerk	£100 per ann.	Resigned.

Tramway Employés.

		TRAMWAYS—LOCOMOTIVE BRANCH		
1895.				
17 July	Dixon, James	Fireman	9/- per day	Discharged
27 Aug.	May, William B	Cleaner	7/6 per day	Left the Service.
17 Sept.	Ryan, Phillip	Watchman	7/- per day	Deceased
24 ,,	Rowe, William	Blacksmith	11/- per day	Retrenchment
25 ,,	Campbell, Charles	Labourer	7/ per day	Retrenchment
25 ,,	Isackson, Carl	Lamp trimmer	7/- per day	Retrenchment
25 ,,	Fenton, Richard	Lamp-trimmer	7/- per day	Retrenchment
26 ,,	Holden, Robert	Labourer	7/ per day	Retrenchment
30 ,,	Smith, Thomas W.	Labourer	7/ per day	Discharged.
9 Oct	M'Leay, Dougald	Driver	13/- per day	Deceased
14 ,,	Fleming, William	Cleaner	6/6 per day	Discharged.
1 Nov.	Bryant, John G.	Apprentice	1/3 per day	Resigned.
23 ,,	Maguire, John	Gripman	8/- per day	Deceased.
16 Dec.	Toby, Albert	Fireman	8/- per day	Resigned.
1896.				
8 Jan.	Greig, Robert A	Driver	13/- per day	Resigned
13 ,,	Hippitt, Jesse	Fireman	8/ per day	Resigned
13 ,,	M'Gregor, Robert	Fitter	8/ per day	Retrenchment.
15 ,,	Swan, William	Boilermaker	10/ per day	Retrenchment.
15 ,,	M'Queen, John	Boilermaker	10/ per day	Retrenchment
15 ,,	Byrne, Harold	Apprentice	5/- per day	Retrenchment.
16 ,,	Perrin, Charles	Driver	11/- per day	Deceased
7 Feb.	Osborne, Thomas	Driver	13/ per day	Left the Service.
13 ,,	Beckinsale, Alfred	Fireman	7/6 per day	Resigned
19 Mar.	Frappell, Arthur	Boy labourer	3/ per day	Resigned
26 ,,	Tumbrell, William	Apprentice	2/- per day	Resigned
31 ,,	O Maley, William	Fireman	8/- per day	Deceased.
10 May..	Millington, John	Lamp trimmer	7/- per day	Deceased.
		TRAMWAYS—TRAFFIC BRANCH.		
1895				
10 July	Clement, David	Clerk	£140 per ann.	Retired
17 ,,	Hinton, Thomas	Pointsman	7/- per day	Retrenchment.
17 ,,	Cutter, William	Pointsman	7/- per day	Retrenchment
17 ,,	McEwan, Chas.	Flagman	7/- per day	Retrenchment.
17 ,,	Swain, John	Lamplighter	7/- per day	Retrenchment
8 Aug.	Jones, George H.	Conductor	9/- per day	Retrenchment.
13 ,,	Shipway, Joshua	Assistant conductor	8/- per day	Retired
26 ,,	Healey, Sydney	Conductor	6 6 per day	Discharged.
27 ,,	Jones, Thomas	Conductor	6/6 per day	Discharged.
27 ,,	Booth, Benjamin	Conductor	6/6 per day	Discharged
27 ,,	Barton, Frederick W.	Conductor	6/6 per day	Discharged
30 ,,	Roach, Laurence G.	Conductor	9/ per day	Written off books.
18 Sept.	Freeman, John T.	Junior conductor	5/- per day	Discharged
20 ,,	Nunn, Henry G B.	Assistant conductor	8/- per day	Discharged.
20 ,,	Vermeesch, Adolphus	Conductor	6/6 per day	Discharged.
18 Oct.	Lewis, William A	Junior conductor	6/- per day	Resigned
23 ,,	Montgomery, Henry R.	Junior conductor	6/ per day	Discharged.
24 ,,	Cowley, John	Assistant conductor	6/6 per day	Resigned.
10 Nov.	Faircloff, James	Flagman	7/6 per day	Retired.
11 ,,	Longstaff, John	Flagman	7/- per day	Discharged.
28 ,,	Steel, William	Car-cleaner	7/ per day	Discharged.
25 ,,	Bingham, Henry	Assistant conductor	8/- per day	Discharged.

APPENDIX XXVIII—*continued.*

Date	Name	Position	Rate	Remarks
		TRAMWAYS—TRAFFIC BRANCH—*continued.*		
1896				
10 Dec	Garnett, John	Assistant conductor	8/ per day	Resigned
26 ,,	Smith, James	Car cleaner	6/ per day	Resigned
30 ,	Hawkins Thomas	Conductor	9/ per day	Discharged
30 ,,	Tuckfield, William	Conductor	9/ per day	Discharged
30 ,,	Berry, Charles	Assistant conductor	8/ per day	Discharged
30 ,,	Horsfield, Joseph	Assistant conductor	8/ per day	Discharged
30 ,,	Lawson, George	Assistant conductor	8/ per day	Discharged
30 ,,	Wilson, William T	Assistant conductor	8/ per day	Discharged
31 ,,	Wright, Percy	Junior conductor	5/ per day	Deceased
1896				
24 Jan	Audsley, Thomas R	Conductor	8/- per day	Resigned
24 ,,	Blundell, James	Conductor	8/- per day	Resigned
24 ,,	Keene, William T	Junior conductor	7/- per day	Resigned
24 ,,	M'Adam, John L	Junior conductor	7/- per day	Resigned
20 Feb	Cowdroy, Gilbert	Car cleaner	7/- per day	Resigned
9 Mar	Dolan, William	Senior conductor	9/- per day	Discharged
12 ,,	Horrocks, Benjamin	Flagman	6/- per day	Resigned
12 ,,	Keshan, Henry	Junior conductor	7/- per day	Discharged
18 ,,	Payne, John J	Inspector	12/- per day	Retired
21 ,,	Larmour, Andrew	Junior conductor	6/- per day	Discharged
28 ,,	Cowdroy, Alfred A	Conductor	8/- per day	Resigned
30 ,,	Johnson, John H	Conductor	8/- per day	Discharged
4 April	Moran, William	Senior conductor	9/ per day	Resigned
9 ,,	Head, Edward J	Senior conductor	9/ per day	Resigned
19 May	Healey, Maurice	Senior conductor	9/ per day	Discharged
29 ,,	Colls, Edward	Conductor	7/6 per day	Discharged
6 June	Stone, George	Senior conductor	9/ per day	Deceased
15 ,,	Harris, William J	Senior conductor	9/ per day	Discharged
15 ,,	Stack Patrick	Senior conductor	9/- per day	Discharged
15 ,,	Stuart, Richard	Conductor	6/6 per day	Discharged
26 ,,	Schwerdtmann, Charles	Senior conductor	9/ per day	Deceased
30 ,,	Smith, Fredk G D	Clerk	£220 per annum	Dispensed with
		TRAMWAYS—MAINTENANCE BRANCH		
1896				
8 Jan	Collins, Thomas	Labourer	7/6 per day	Deceased
30 ,,	Johnston, Thomas	Labourer	7/6 per day	Discharged
25 Feb	Dorahy, William	Horse and driver	11/- per day	Discharged
28 ,,	Andrews John	Horse and driver	11/- per day	Discharged
22 April	Page, Watkin	Labourer	7/6 per day	Discharged
20 June	Kiernan, James	Labourer	7/6 per day	Discharged

[Diagrams, &c.]

Sydney . Charles Potter, Government Printer.—1896

1896.

NEW SOUTH WALES.

RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDING DECEMBER, 1895.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35, sec. 44.

Printed under No. 1 *Report from Printing Committee*, 21 *May*, 1896.

Offices of the Railway Commissioners of New South Wales,
30 January, 1896.

To The Honorable the Minister of Railways,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report, for the quarter ending 31st December, 1895, upon the subjects specified.

I.—State of the Traffic.

RAILWAYS.	Quarter ending 31st Dec., 1894.	Quarter ending 31st Dec., 1895.
Miles open	2,526	2,531¼
Revenue — 1894. 1895. Passenger £272,480 £280,472 Merchandise £670,621 £590,366	£943,101	£870,838
Expenditure	£436,543	£413,867
Train miles run	2,095,007	2,095,314
Earnings per train mile	9/0	8/3¾
Expenditure per train mile	4/2	3/11½
Percentage—Expenditure to earnings	46·29	47·52
Number of passengers	5,056,243	5,357,918
Tonnage of goods traffic	1,001,542	1,019,069
Tonnage of live stock traffic	41,827	50,495

TRAMWAYS.	Quarter ending 31st Dec., 1894.	Quarter ending 31st Dec., 1895.
Miles open	61	61
Revenue from all sources	£75,065	£73,728
Expenditure	£61,184	£62,879
Tram miles run	655,048	672,973
Earnings per tram mile	2/3½	2/2¼
Expenditure per tram mile	1/10½	1/10½
Percentage—Expenditure to earnings	81·51	85·29
Number of fares collected	17,779,806	17,407,309

[875 copies—Approximate Cost of Printing (labour and material), £12 4s. 6d.]

RAILWAYS.

II.—Condition of the Lines.

A report as to the condition of the lines will be found as an Appendix, page 4.

III.—Special Rates.

A statement of the special rates, and the reasons for making the same, will be found as an Appendix, page 4.

IV.—Staff.

These returns are given as an Appendix, pages 5 to 7.

General Remarks.

The earnings for the quarter show a decrease of £72,263, arising entirely from the effects of the drought, which has so seriously affected the pastoral industry of the country during the year 1895.

The decrease in the revenue from the wool traffic for the quarter amounted to £92,279; this, however, does not correctly represent the actual decrease in the wool for the season, as, in consequence of the shearing being an early one, some of the wool that last year came into the December quarter was carried in the September quarter; the net decrease from wool revenue as from the 1st July to 31st December represents a sum of £72,410.

General merchandise and coal and coke also gave a decreased revenue. The live-stock traffic, however, was largely in excess of any previous period, the revenue derived from this source for the quarter being £113,898, an increase of £23,777.

The coaching traffic shows an increase of £7,992.

The gross tonnage carried for the quarter showed an increase of 17,527 tons. The number of passengers carried exceeded the corresponding period of last year by 301,675.

The train mileage run during the quarter was practically the same as last year. No saving could be effected, as the large increase in the live-stock traffic necessitated a greatly increased train mileage, as compared with what would have been required for the wool traffic, which is the best paying traffic carried on the railways.

The working expenses for the quarter show a reduction of £22,676, and the percentage of working expenses to gross traffic stands at the low figure of 47·52.

While a decrease of revenue for the quarter of £72,263 has to be reported, we would call attention to the fact that the revenue for the September quarter showed an increase, and the net reduction in revenue for the half-year closed by this report is £35,130.

Condition of the Lines and Accommodation for the Traffic.

The lines are all in excellent order, and every necessary provision exists for the accommodation of the traffic.

TRAMWAYS.

TRAMWAYS.

The earnings show a decrease of £1,337, the City and Suburban Trams having suffered to the extent of £2,788. The expenditure shows an increase of £1,695, considerable additional expenditure having been incurred in relaying.

We have the honor to be,
Sir,
Your most obedient servants,

E. M. G. EDDY,
Chief Commissioner.

CHARLES OLIVER,
Commissioner.

W. M. FEHON,
Commissioner.

APPENDIX I.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

Sir, Office of Engineer-in-Chief for Existing Lines, 3 January, 1896.

I have to report that the lines and works have been maintained in a thoroughly satisfactory state during the past quarter.

Relaying and resleepering operations have made steady progress.

The grade improvements at Moss Vale and Cullerin have been opened for traffic, and also No. 1 contract between Wellington and Dubbo; and other portions are approaching completion.

The sharp curves in the vicinity of Linden and Faulconbridge are being flattened, and further improvements will shortly be taken in hand.

I have, &c.,

THOMAS R. FIRTH,

Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

APPENDIX II.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

STATEMENT, in accordance with clause No. 44 of the Railway Act, showing the Special Rates which have been made, and the reasons for making such rates, quarter ending 31st December, 1895.

Article.	Rate.	Reason for rate.
Bamboo for basket making	To be charged first-class rates and conditions	New rates.
Cocoa-nut oil—cake	In lots of not less than 6 tons to be charged miscellaneous class rates; smaller quantities "A" rates and conditions.	New traffic.
Damp-course	To be charged "A" rates and conditions	New rate.
Lime and cement	Carried in mixed truck loads of not less than 4 tons, to be charged in up transit "A" rates.	To equalise rates.
Rhubarb	To be carried under the same conditions as fruit	To encourage traffic.
Single package rate by-law 113.	Where articles are sent under the single package scale of charges, the through mileage rates to be imposed.	To equalise rates.
Do do	Single 10-gallon can of cream, weighing up to 112 lb., to be charged at the single package rate for 90 lb.	do
Single package rates	The rates and conditions in by-law 113 to apply to consignments of seeds of all kinds.	To encourage traffic.
Specimens	Specimens of animal, vegetable, and mineral products consigned to Technological Museums at Sydney, Bathurst, Albury, Goulburn, Newcastle, West Maitland, and Broken Hill, also fruit consigned to the Agricultural Department, for naming purposes, are carried free of charge.	Special concession.
Biscuits for dogs, &c., and Granulated meal.	To be carried at "A" rates and conditions	To equalise rates.

APPENDIX III.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No. 44 of the Railway Act, showing the Appointments of Employees from the 1st October to the 31st December, 1895.

Date	Name	Position	Rate	Remarks
1895		SECRETARY'S BRANCH		
31 Dec	Pollard, William R	Apprentice clerk	£50 per annum	From Traffic Branch, *vice* J Garlick
		ENGINEER IN CHIEF FOR EXISTING LINES BRANCH		
23 Oct	Reevers, Francis G	Bricklayer	10 per day	Transferred from Supernumerary Staff, *vice* J Bowler
25 ,,	Keane, John	Labourer	6/6 per day	Transferred from Supernumerary Staff, *vice* J Miller
25 ,,	Nolan, Patrick J	Fettler	6/6 per day	Transferred from Supernumerary Staff, *vice* J Reading
25 ,,	M'Guckin, John	Labourer	7/ per day	Transferred from Supernumerary Staff, *vice* E Hollebon
1 Nov	O'Shea, John	Fettler	7/6 per day	Transferred from Supernumerary Staff, *vice* M Sweeney
1 ,,	Cook, John (West)	Fettler	7/6 per day	Transferred from Supernumerary Staff, *vice* A M'Kay
1 ,,	Cook, John (South)	Labourer	6/6 per day	Transferred from Supernumerary Staff, *vice* W Jameson
1 ,,	Swanson, William	Labourer	7/6 per day	Transferred from Supernumerary Staff, *vice* T Muldoon
1 ,,	Timm, Charles	Fettler	7/6 per day	Transferred from Supernumerary Staff, *vice* W Cocking
				Positions saved on Supernumerary Staff
14 ,,	O'Toole, James	Fettler	7/6 per day	*Vice* J Appleby
15 ,,	Hunter, Joseph	Ganger	9/ per day	From Tramways, *vice* J Lynch
21 ,,	Martin, John R	Labourer	6/6 per day	*Vice* J Shepherd
25 ,,	Harding Francis	Labourer	7/ per day	Transferred from Supernumerary Staff, *vice* R. Meeks position saved on Supernumerary Staff
		CHIEF MECHANICAL ENGINEER'S BRANCH		
10 Oct	Rowe, William	Blacksmith	10/8 per day	Re employed, *vice* J. Burgess
18 ,,	Campbell, Charles	Boilermaker's assistant	7/ per day	Transferred from Supernumerary Staff, *vice* G Smith
18 ,,	Parker, Arthur	Fitter	10/ per day	Transferred from Supernumerary Staff, *vice* J Power
18 ,,	Hume, Edward	Fitter	10/ per day	Transferred from Supernumerary Staff, *vice* J Hampill
18 ,,	Lea, Edward	Fitter	10/8 per day	Transferred from Supernumerary Staff, *vice* T White
18 ,,	Ross, George	Coppersmith	10 per day	Transferred from Supernumerary Staff, *vice* T Richardson
18 ,,	Fitzpatrick, John	Turner	10/6 per day	Transferred from Supernumerary Staff, *vice* W Carroll
				Positions saved on Supernumerary Staff
15 Nov	Findall, Nathaniel	Labourer	7/ per day	
15 ,,	Duffy, Roger	Labourer	7/ per day	
15 ,,	Campbell, John	Labourer	7/ per day	
18 ,,	Nixon, Ralph	Cleaner	5 6 per day	From Tramways, *vice* W Bunker
		CHIEF TRAFFIC MANAGER'S BRANCH		
23 Sept	Dunn, Robert G	Apprentice clerk	£30 per annum	From Electrical Engineer's Branch, *vice* C Culnane, to Darling Harbour
1 Oct	Scully James	Junior porter	5/ per day	From Secretary's Branch, *vice* T Crow
8 ,,	Seddon, James	Telephone boy	10/ per week	*Vice* W Garland
11 ,,	Platt, Adam	Telephone boy	10/ per week	*Vice* G Everist
14 ,,	Kendrick, Mrs	Gatekeeper and station caretaker	£5 per annum and free house	*Vice* C Hess
14 ,,	Noonan, Mary	Station caretaker	Free house	*Vice* M Hardy
14 ,,	Burrows, John	Gatekeeper	30 per week	At Blackheath
15 ,,	Fagan, Michael	Telegraph probationer	2 6 per week	*Vice* P O'Sullivan
16 ,,	Smith, Thomas	Gatekeeper	15 per week	*Vice* J P Meehan
16 ,,	Shepherd, Henry	Telephone boy	10 per week	*Vice* E Nevin
18 ,,	Corry, Phillip	Telegraph probationer	5 per week	*Vice* S Weaver
18 ,,	Moores, William	Telephone boy	10 per week	*Vice* J Gordon
18 ,,	Pettendrigh, Minnie	Gatekeeper	10/ per week	*Vice* A M'Lennan
21 ,,	Watts, Minnie	Gatekeeper	Free house	At Millthorpe
23 ,,	Crossman, Richard	Telephone boy	10/ per week	*Vice* J Salmon
25 ,,	Davis, Matilda	Gatekeeper	7/ per week and free house	At Chatswood
29 ,,	Donn, Grace	Gatekeeper	Free house	*Vice* E Parry
30 ,,	O'Brien, Mrs	Ladies' attendant	12/6 per week	*Vice* E Brown
31 ,,	Murray, Mrs	Gatekeeper	7/ per week and free house	*Vice* E Brown
31 ,,	Parker, Arthur	Gatekeeper	10/ per week	*Vice* P Geary
1 Nov	Noble, Harvey	Apprentice clerk	£30 per annum	At Penrith
1 ,,	Blackett, Sarah	Gatekeeper	7/ per week	*Vice* M Pryer
6 ,,	Watson, William	Apprentice clerk	£30 per annum	*Vice* G Brown
11 ,,	Johnson, Arthur	Telephone boy	10/- per week	*Vice* P Benson, to Thirlmere.
11 ,,	Henson, Arthur	Junior porter	3/4 per day	*Vice* W Poll
15 ,,	Hunter, Martha	Gatekeeper	7/6 per week	*Vice* M Lynch
15 ,,	Matheson, Kenneth	Porter	6/ per day	From Tramways, *vice* E Brogan
21 ,,	Kenna, Timothy	Gatekeeper	15/ per week	*Vice* G James
22 ,,	Hamlin, Walter	Telephone boy	10/ per week	*Vice* A Dauncey
25 ,,	Stacey, Edward	Telegraph probationer	2/6 per week	At Capertee
29 ,,	Priest, Margaret	Station caretaker	£5 per annum and free house	*Vice* M Stewart
2 Dec	Hurd, Jane	Gatekeeper	10/ per week	At Bay street, Rockdale
5 ,,	Rowe, Ross	Telephone boy	10/ per week	*Vice* C Wright
5 ,,	Pardoe, John	Telephone boy	10/ per week	*Vice* J Brinckley
6 ,,	Bennett, Arthur	Office lad	10 per week	At Bourke
11 ,,	Conradi, Samuel	Telegraph probationer	2 6 per week	At Picton
11 ,,	Purtill, Mrs	Gatekeeper	Free house	*Vice* A Alport
13 ,,	Moon, Thomas	Telephone boy	10/ per week	*Vice* C Price
14 ,,	Wolfenden, Edgar	Apprentice clerk	£30 per annum	*Vice* F Treacy
14 ,,	Sullivan, William	Telegraph probationer	2/6 per week	At Narrandera
17 ,,	Simpson, Henry	Telegraph probationer	2/6 per week	At Nyngan
17 ,,	Foster, Mrs	Gatekeeper	7/ per week	*Vice* Mrs White
18 ,,	Wolfenden, Leslie	Telephone boy	10/ per week	*Vice* T Jones
18 ,,	Scotney, George	Telephone boy	10/ per week	*Vice* M Fox
23 ,,	O'Meara, Michael	Gatekeeper	15/ per week	*Vice* W Dargan
23 ,,	Meeks, Rose	Barrack attendant	12 6 per week	*Vice* M Wall
26 ,,	Sargeant, John	Gatekeeper	15/ per week	*Vice* J Hurd
28 ,,	Thomas, Bridget	Gatekeeper	7/ per week	*Vice* M Shirley
30 ,,	Lawrence, Mrs	Gatekeeper	7/ per week	*Vice* J Farnie
31 ,,	Artlett, William	Apprentice clerk	£30 per annum	*Vice* W Pollard
		SIGNAL AND INTERLOCKING BRANCH		
24 Oct	Haines, William	Patternmaker	10/ per day	*Vice* E Chandler
		COMPTROLLER OF STORES BRANCH		
28 Oct	Taylor, Benjamin J	Store boy	2/3 per day	*Vice* R Harrington.

APPENDIX III—*continued.*

Date	Name.	Position	Rate	Remarks
1895		TRAMWAYS—LOCOMOTIVE BRANCH		
2 Oct	Ryan, John	Boy labourer	2/6 per day	*Vice* W May.
10 ,,	Barnes, James	Boy labourer	4/ per day	*Vice* P Ryan
9 Nov	Keating, William	Boy labourer	2/6 per day	*Vice* W Fleming
12 ,,	Sheaves, John	Labourer	6/6 per day	*Vice* T W Smith
18 ,,	Bunker, William F . .	Cleaner	6/ per day	From Railways, *vice* R Nixon
21 ,,	M'Leay, Edward D	Boy labourer	4/ per day	*Vice* D M'Leay
5 Dec	Scott, Harry R	Apprentice	10d per day	*Vice* J G Bryant
6 ,,	Perrau, William	Fireman	7/6 per day	Transferred from Supernumerary Staff, *vice* G Weller position saved on Supernumerary Staff
		TRAMWAYS—TRAFFIC BRANCH		
1 Oct	Muir, James	Conductor	6/6 per day	From Railways, *vice* F Barton
4 ,,	Everist, George L	Conductor	6/6 per day	From Railways, *vice* T Jones
9 ,,	Garland, William	Conductor	6/6 per day	From Railways, *vice* B Booth
17 ,,	Nevin, Eugene J	Conductor	6/6 per day	From Railways
24 ,,	Haywood, Samuel P	Junior conductor	6/ per day	*Vice* H G Nunn
1 Nov	Kneeshaw, John	Superintendent	£450 per annum	From Railways
27 ,,	Dauncey, Albert J	Junior conductor	6/ per day	From Railways, *vice* W Lewis
30 ,,	Brogan, Edward J	Junior conductor	6 6 per day	From Railways, *vice* K Matheson
6 Dec	Brinckley, John	Junior conductor	6/ per day	From Railways, *vice* J Faircloff
9 ,,	Downie, Robert J	Junior conductor	6/ per day	From Railways, *vice* H Montgomery
10 ,,	Wright, Charles	Junior conductor	6/ per day	From Railways, *vice* H Bingham
17 ,,	Fox, Michael	Junior conductor	6/ per day	From Railways, *vice* W Steel
17 ,,	Price, Charles	Conductor	6/6 per day	From Railways, *vice* J Boag
19 ,,	Eade, Josiah	Flagman	7/ per day	From Railways, *vice* J Longstaff
30 ,,	Tracy, George J	Car cleaner	6/ per day	From Railways, *vice* J Garnett
30 ,,	Vintzentz, Joseph	Junior conductor	6/ per day	From Locomotive Branch, *vice* C Berry
30 ,,	Calow, Iram	Junior conductor	7/ per day	From Locomotive Branch, *vice* J Horsfield
30 ,,	Neaves, Halkett	Junior conductor	7/ per day	From Locomotive Branch, *vice* G Lawson
30 ,,	Bedford, Stephen	Junior conductor	6/6 per day	From Locomotive Branch, *vice* W Wilson
		TRAMWAYS—MAINTENANCE BRANCH		
28 Oct	Lynch, James	Ganger	9/ per day	From Railways, *vice* J Hunter

APPENDIX IV.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No 44 of the Railway Act, showing the Removals of Employees from the 1st October to the 31st December, 1895

Date	Name	Position	Rate	Remarks
1895.		SECRETARY'S BRANCH		
14 Dec	Gallick, John	Junior clerk	£100 per annum	Resigned
		TRAFFIC AUDITOR'S BRANCH.		
31 Dec	Mulholland Philip J	Junior clerk ..	£100 per annum	Resigned
		ENGINEER IN CHIEF FOR EXISTING LINES BRANCH		
7 Oct	Wormleaton, Thomas	Fettler	6 per day	Deceased
7 ,,	Marks, George	Labourer	6 per day	Retired
9 ,,	Meeks, Robert	Fettler	6 per day	Deceased
28 ,,	Lynch, James	Ganger	9/ per day	To Tramways
13 Nov	M'Fadden, John	Fettler	7/6 per day	Discharged
14 ,,	Wright, Alfred	Fettler	7 6 per day	Retrenchment
18 ,,	Appleby, Joseph	Fettler	7/6 per day	Discharged
6 Dec	Field, Daniel	Labourer	7/6 per day	Deceased
16 ,,	Kealey Thomas	Fettler	7/6 per day	Deceased
		CHIEF MECHANICAL ENGINEER'S BRANCH		
16 Oct	Higgins, Henry	Labourer	7/ per day	Discharged
17 ,,	M'Intyre, John	Driver	15/ per day	Deceased
18 ,,	Hayes, John	Labourer	7/6 per day	Deceased
24 ,,	Waring, Thomas	Tube cleaner	7/ per day	Discharged
13 Nov	Williams, Lewis	Blacksmith	11/8 per day	Discharged
16 ,,	Bunker, William	Cleaner	5/6 per day	To Tramways
21 ,,	Pearce, Henry	Driver	14/ per day	Discharged
22 ,,	Dodd, Edward	Turner's improver	7/ per day	Deceased
26 ,,	Dick, James	Blacksmith	10/2 per day	Discharged
5 Dec	Hendy, John R	Cleaner	7/ per day	Resigned
9 ,,	Glass, James	Examiner	8/ per day	Discharged
19 ,,	Oliffe, Thomas	Fitter	14/ per day	Deceased
21 ,,	Reid, David	Boilermaker ...	12/2 per day	Resigned
		CHIEF TRAFFIC MANAGER'S BRANCH		
29 Sept	Geary, Patrick . .	Porter	7/ per day	Discharged
4 Oct	Everist, George	Junior porter	5/ per day	To Tramways
8 ,,	Turner, James	Gatekeeper	15/ per week	Deceased, position saved
8	Gordon, John	Junior porter	4/2 per day	Resigned
8 ,,	Jones, Thomas	Telephone boy	10/ per week	Resigned
9 ,,	Garland William	Junior porter	5/ per day	To Tramways
11	Hardy, Mary	Station caretaker	Free house	Discharged
14 ,,	Hess, Catherine	Gatekeeper and station caretaker	£5 per ann and free house	Resigned
14 ,,	O Toole, James	Porter	7/ per day	Discharged
17 ,,	Nevin, Eugene	Junior porter	5/ per day	To Tramways
17 ,,	M'Lennan, Ann	Gatekeeper	10/ per week	Resigned
24 ,,	Lynch, Mary	Gatekeeper	7/6 per week	Resigned
30 ,,	Brown, Mrs Emma	Ladies' attendant	25/ per week	Resigned
31 ,,	Pryer, Mary	Gatekeeper	7 per week	Discharged

7

APPENDIX IV—*continued.*

Date	Name	Position	Rate	Remarks
1895		CHIEF TRAFFIC MANAGER'S BRANCH—*continued*		
1 Nov	Kneeshaw, John	Chief clerk to Out door Superintendent	£375 per ann	Promoted to Superintendent of Tramways
12 ,,	Paton, John	Berthing master	£300 per ann, £71 10/ rent	Deceased
18 ,,	Dargan, William	Porter	7/ per day	Discharged
27 ,,	Dauncey, Albert	Junior porter	5/ per day	To Tramways
27 ,,	Treacy, Francis	Junior clerk	£100 per ann	Resigned
28 ,,	Stewart, Mary	Station caretaker	£5 per ann and house	Discharged
30 ,,	Brogan, Edward	Porter	6 per day	To Tramways
4 Dec	Wright, Charles	Junior porter	5/ per day	To Tramways
5 ,,	Brinckley, John	Junior porter	5/ per day	To Tramways
9 ,,	Downie, Robert	Junior porter	5/ per day	To Tramways
11 ,,	Alport, Ann	Gatekeeper	Free house	Resigned
13 ,,	Price, Charles	Junior porter	5/ per day	To Tramways
16 ,,	Fox, Michael	Junior porter	5/ per day	To Tramways
17 ,,	Reed, John	Gatekeeper	40 per week	Deceased
17 ,,	Dunne, Stephen	Junior porter	5/ per day	Deceased
17 ,,	Waters, Lydia	Station caretaker	Free house	Discharged
17 ,,	White, Mrs Catherine	Gatekeeper	7/ per week	Resigned
17 ,,	Stone, Benjamin	Porter	7/ per day	Discharged
17 ,,	Kerr, Thomas	Porter	7/ per day	Discharged
18 ,,	Eade, Josiah	Porter	7/ per day	To Tramways
18 ,,	Shirley, Mary	Gatekeeper	7/ per week	Resigned
26 ,,	Hurd, Jane	Gatekeeper	10 per week	Resigned
26 ,,	Farnie, Jane	Gatekeeper	7 per week	Deceased
30 ,,	Tracy George	Junior Porter	5/ per day	To Tramways
31	Campion Henry	Station master	£180 per ann	Retired
31 ,,	Noon, Aaron	Guard	12/ per day	Retired
31 ,,	Pollard, William	Apprentice clerk	£40 per ann	To Secretary's Branch
		SIGNAL AND INTERLOCKING BRANCH		
27 Sep	Chandler, Ernest	Patternmaker	10/ per day	Resigned
		COMPTROLLER OF STORES BRANCH		
12 Oct	Harrington, Roderick	Tallyman	8/6 per day	Deceased
31 Dec	Crickard, James	Clerk	£150 per ann	Resigned
		TRAMWAYS LOCOMOTIVE BRANCH		
9 Oct	M'Leay, Dougald	Driver	13/ per day	Deceased
14 ,,	Fleming, William	Cleaner	6/6 per day	Discharged
1 Nov	Bryant, John G	Apprentice	1/3 per day	Resigned
23 ,,	Maguire, John	Gripman	8/ per day	Deceased
16 Dec	Toby, Albert	Fireman	8/ per day	Resigned
27 ,,	Calow, Iram	Labourer	7/ per day	To Traffic Branch, position saved
27 ,,	Neaves, Halkett	Labourer	7/ per day	To Traffic Branch, position saved
30 ,,	Vintzentz, Joseph	Apprentice	5/ per day	To Traffic Branch
30 ,,	Bedford, Stephen	Labourer	6 6 per day	To Traffic Branch position saved
		TRAMWAYS—TRAFFIC BRANCH		
18 Oct	Lewis William A	Junior conductor	6/ per day	Resigned
23 ,,	Montgomery, Henry R	Junior conductor	6/ per day	Discharged
24 ,,	Cowley John	Assistant conductor	6 6 per day	Resigned
10 Nov	Faircloff, James	Flagman	7/6 per day	Retired
11 ,,	Longstaff, John	Flagman	7/ per day	Discharged
15 ,,	Matheson Kenneth	Junior conductor	6/ per day	To Railways
28 ,,	Steel, William	Car cleaner	7/ per day	Discharged
29 ,,	Bingham, Henry	Assistant conductor	8/ per day	Discharged
10 Dec	Garnett, John	Assistant conductor	8/ per day	Resigned
26 ,,	Smith James	Car cleaner	6/ per day	Resigned
30 ,,	Hawkins, Thomas	Conductor	9/ per day	Discharged
30 ,,	Tuckfield, William	Conductor	9/ per day	Discharged
30 ,,	Berry, Charles	Assistant conductor	8/ per day	Discharged
30 ,,	Horsfield, Joseph	Assistant conductor	8/ per day	Discharged
30 ,,	Lawson, George	Assistant conductor	8/ per day	Discharged
30 ,,	Wilson, William T	Assistant conductor	8 per day	Discharged
31 ,,	Wright, Percy	Junior conductor	5/ per day	Deceased
		TRAMWAYS—MAINTENANCE BRANCH		
15 Nov	Hunter Joseph	Ganger	9/ per day	To Railways

Sydney Charles Potter Government Printer —1896

[6*d*]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDING 31st MARCH, 1896.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35, sec. 44.

Printed under No. 1 *Report from Printing Committee,* 21 *May,* 1896.

Offices of the Railway Commissioners of New South Wales,
Sydney, 20th April, 1896.

TO THE HONORABLE THE MINISTER OF RAILWAYS,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report, for the quarter ending 31st March, 1896, upon the subjects specified, viz :—

I.—STATE OF THE TRAFFIC.

RAILWAYS.	Quarter ending 31st March, 1895.	Quarter ending 31st March, 1896.
Miles open	2,531	2,531
Revenue — 1895. 1896. Passenger £264,740 £277,489 Merchandise £583,135 £371,493	£647,875	£648,982
Expenditure	£368,959	£372,832
Train miles run	1,867,262	1,890,021
Earnings per train mile	6/11¼	6/10½
Expenditure per train mile	3/11½	3/11½
Percentage—Expenditure to earnings	56·95	57·45
Number of passengers	4,846,193	5,236,431
Tonnage of goods traffic	917,152	1,015,538
Tonnage of live stock traffic	40,285	40,790

TRAMWAYS.	Quarter ending 31st March, 1895.	Quarter ending 31st March, 1896.
Miles open	61	61
Revenue	£73,366	75,143
Expenditure	£54,221	53,781
Train miles run	638,930	681,619
Earnings per train mile	2/3½	2/2½
Expenditure per train mile	1/8¼	1/7
Percentage—Expenditure to earnings	73·90	71·57
Number of fares collected	17,343,232	17,735,940

[615 copies—Approximate cost of Printing (labour and material), £12 2s.]

II.—Condition of the Lines.

A report as to the condition of the lines will be found as an Appendix, page 4.

III.—Special Rates.

A statement of the special rates, and the reasons for making the same, will be found attached, page 4.

IV.—Staff.

These returns are given as an Appendix, pages 5 to 7.

RAILWAYS.

General Remarks.

The revenue for the quarter shows a slight increase of £1,107 over the corresponding period of last year.

The total revenue derived from the goods traffic decreased by £11,642. General merchandise, minerals (other than coal and coke), hay, straw, and chaff, and wool showing an aggregate decrease of £20,659; live stock, coal and coke, and miscellaneous items show an increase of £9,017, leaving a net decrease of £11,642.

The coaching traffic increased by £12,749, contributed to by an increase of £5,188 from first class traffic, £5,360 from second class traffic, £2,201 from parcels, &c., traffic.

390,238 additional passengers were carried to earn the increased revenue.

Although the goods revenue shows a decrease, 98,386 tons of additional traffic were carried; this is entirely made up by an increase in the coal and coke traffic to the extent of 149,183 tons.

General merchandise shows a decrease of 7,795 tons; grain, flour, &c., 35,712 tons decrease on the Up journey; wool, 475 tons decrease; minerals (other than coal and coke), 6,815 tons decrease.

The expenditure for the quarter shows an increase of £3,873; a decrease would have been shown had not special debits arisen under the following heads:—

(1.) Workshop staff working full time.

(2.) One day's extra wages included in consequence of leap year.

(3.) Heavy exceptional expenditure for repairing damage caused by floods on the Bourke and Cobar Lines in February last.

Condition of the Lines and Accommodation for the Traffic.

The lines are in excellent order; relaying and resleepering is being carried on where necessary, and the improvement of grades and curves is also progressing.

All needful accommodation for traffic exists on the lines, but some additional carriage stock will have to be provided ere long, as the special facilities now given for passengers to move about at holiday times calls for additional rolling-stock.

TRAMWAYS.

General Remarks.

The tramway traffic shows an increase of £1,777, and the expenditure a decrease of £440.

The lines and rolling-stock have been maintained in good order during the quarter.

We have the honor to be,
Sir,
Your most obedient servants,

E. M. G. EDDY,
Chief Commissioner.

CHARLES OLIVER,
Commissioner.

W. M. FEHON,
Commissioner.

APPENDIX I.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

Sir, Office of Engineer-in-Chief for Existing Lines, 11 April, 1896.

I have to report for the information of the Railway Commissioners that the Permanent-way and Works have been maintained in a satisfactory state during the past quarter.

Steady progress has been made with the relaying and resleepering operations.

The grade improvements authorised between Wellington and Dubbo, are, with the exception of one short length, completed and opened for traffic.

A deviation to cut out the steep grades on both the Up and Down journeys between Locksley and Brewongle is being rapidly pushed on, and a contract has been let to carry out a similar work between Bell and Clarence.

The improvement of the 8-chain curves in the vicinity of Linden and Faulconbridge is completed, and others near The Valley and Woodford are well in hand.

During the quarter serious floods occurred on the Western Lines—the portion between Nyngan and Bourke and between Nyngan and Cobar being most affected. On the former length the damage extended over 100 miles of line (about 7½ miles being completely destroyed) and traffic was interrupted for eight days. On the Cobar branch the floods extended over nearly 50 miles of line, 1 mile of the railway being seriously damaged. Repairs have been completed, and the line is again in good order.

I have, &c.,

THOMAS R. FIRTH,

Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

APPENDIX II.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

STATEMENT, in accordance with clause No. 44 of the Railway Act, showing the Special Rates which have been made, and the reasons for making such rates, quarter ending 31st March, 1896.

Article.	Rate.	Reason for such rate.
Fares	Twenty per cent. discount to be allowed to single members of theatrical companies travelling second-class between Sydney and Melbourne.	Extra facilities.
Do	Swimming clubs numbering twelve to be allowed pleasure-party rates and conditions.	do
Photographs	Photographs securely packed in cases, ordinary instead of double rates	do
Fares	Polo players travelling between Sydney and Adelaide, when not less than four, to be allowed single fare for the return journey.	do
Do	Rate for monthly season tickets fixed as follows:—	do
	Line. — Amount. £ s. d. Northern and branches, exclusive of Sydney-Newcastle Line. — 5 5 0 South and West and branches — 10 10 0 South and North and branches — 10 10 0 West and North and branches — 10 10 0 All lines — 15 0 0	
Do	Tickets at single fare for the return journey to be issued to scholars when travelling for the purpose of taking swimming lessons, minimum fare 3d.	do
Cement	Darling Harbour to Bourke, for Government use, 46s. 4d. per ton	In connection with river improvement.
Kerosene oil (refined)	Hartley Vale to Parramatta, 22s. 10d. per ton; minimum, 4 tons per 4-wheeled truck.	To encourage traffic.
Sawdust	Required for packing between the ice and sides of trucks for insulating purposes, free.	do do
Sleepers	Temora to Jerilderie, 25 per cent. reduction on ordinary rates, subject to a minimum of 12,000 being sent.	do do

APPENDIX III.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No 44 of the Railway Act, showing the Appointments of Employees from the 1st January to the 31st March, 1896.

Date	Name	Position	Rate	Remarks.
		TRAFFIC AUDITOR'S BRANCH		
1896 14 Jan	Morgan, Sidney A.	Apprentice clerk	£30 per ann	*Vice* P Mulholland
		ENGINEER IN CHIEF FOR EXISTING LINES BRANCH		
29 Jan	Sweeney, Hugh	Labourer	7/ per day	*Vice* A Winter
1 Feb	Richardson, John E	Office boy	2/ per day	Transferred from extra staff
5 ,,	Evans, George H	Office boy	3/ per day	Transferred from extra staff
7 ,,	Coyne, William	Fettler	7/6 per day	*Vice* J Thomas
7 ,,	Myers John	Labourer	7/ per day	*Vice* J May
7 ,,	Fitzpatrick Austin	Fettler	7 6 per day	*Vice* J Williams
7 ,,	Lawrence, George	Fettler	7/6 per day	*Vice* H Worley
11 ,,	Hutton, James	Labourer	7/ per day	*Vice* P Nolan
14 ,,	Claxton George	Labourer	6/6 per day	*Vice* I Sirkett
14 ,,	Freel, James	Fettler	7/ per day	*Vice* P Freel
15 ,,	Stephen, Alfred	Fettler	7/ per day	*Vice* O Mulheron,
15 ,,	Devereux, John	Fettler	7/ per day	*Vice* M Fanning
15 ,,	Budd, James	Fettler	7/ per day	*Vice* J Boyle
15 ,,	Eggleston, John	Labourer	7/ per day	*Vice* L Watters
19 ,,	Worthington James	Labourer	7/ per day	*Vice* W Smith
20 ,,	Smith, William	Labourer	6 6 per day	*Vice* A Capponi
20 ,,	Howell, Frank	Carpenter	8/ per day	Re employed
21 ,,	Schmeer, Charles	Labourer	7/ per day	*Vice* D O Leary
28 ,,	Evans, Alfred	Labourer	7/ per day	*Vice* W Potter
28 ,,	Calnan, John Temple	Labourer	7/ per day	*Vice* J Jackaman
28 ,,	Kildey, James	Fettler	7/ per day	*Vice* W Nugent
5 Mar	Tynan, John	Labourer	7 per day	*Vice* C Day
10 ,,	Abbott George	Office boy	2/ per day	Transferred from extra staff
10 ,,	Tiller, Herbert Charles	Office boy	2/ per day	
13 ,,	Towler, George	Labourer	7/ per day	*Vice* J Ogilvie
		CHIEF MECHANICAL ENGINEER'S BRANCH		
6 Jan	McGurgan, Edward	Apprentice	10d per day	*Vice* J Hayes
22 ,,	Byrne, Harold	Boilermaker's assistant	7/ per day	*Vice* D Reid
24 ,,	Triglone John M	Gasfitter	10/ per day	*Vice* M M'Lean
24 ,,	Lewis, William	Painter's assistant	7/ per day	*Vice* J Pritchard
24 ,,	Mutton, William	Boilermaker	10/ per day	*Vice* C Gill
24 ,,	Cowdery, Frank	Shop boy	4/ per day	*Vice* J Waring
24 ,,	Winspear, William	Apprentice	5/ per day	*Vice* C Martin
24 ,,	Cahalan, Andrew	Cleaner	5/6 per day	*Vice* J Coleman
24 ,,	Osborne, Dudley	Shop boy	5/ per day	*Vice* J North
24 ,,	Clark, James	Boilermaker's assistant	7/ per day	*Vice* J Crossley
28 ,,	Greaves, James	Examiner	7/6 per day	At Lismore
28 ,,	Wauhop, Maggie	Upholsteress	17/6 per week	At Eveleigh
30 ,,	Bell, David H	Apprentice	10d per day	*Vice* T Olliffe
3 Feb	Moon, Alice Maud	Upholsteress	15/ per week	At Eveleigh
4 ,,	Ralph, Horace	Shop boy	2/3 per day	*Vice* H Viney
21 ,,	Simpson, Robert	Machinist	9 per day	*Vice* R Crews
21 ,,	Williams, William H	Labourer	7/ per day	*Vice* G Lawton
21 ,,	Pemberton, William	Blacksmith	10/8 per day	*Vice* E Davis
21 ,,	Inglis, Allen	Blacksmith	11/ per day	*Vice* J Harris
21 ,,	Gunn James	Apprentice	5/ per day	*Vice* J Spence
21 ,,	Connor, Arthur W	Boy	5/ per day	*Vice* J McKenzie
21 ,,	Swinden, John	Boy	5/ per day	*Vice* F Cartwright
21 ,,	Guthrie Robert B	Striker	7/ per day	*Vice* G Mathieson
21 ,,	Horsfield, Stanley	Striker	7/ per day	*Vice* J Wishaidt
21 ,,	Graham, Sidney	Striker	7/ per day	*Vice* J Benn
21 ,,	Sheehan, Francis	Messenger	25/ per week	*Vice* W Francis
26 ,,	Hannigan, Daniel	Cell boy	2/6 per day	*Vice* J McIntyre
20 Mar	Swires James	Moulder	10 6 per day	*Vice* W McMillan
20 ,,	Burkett Harry	Traverser driver	7 6 per day	*Vice* J Murray
20 ,,	McCaffery James	Labourer	7 per day	*Vice* W Winspear
20 ,,	Jones, Thomas	Fitter	10/ per day	*Vice* J Carson
		CHIEF TRAFFIC MANAGER'S BRANCH		
16 Jan	Fulford, Arthur	Junior porter	2/6 per day	*Vice* T Buchanan
17 ,,	Norman, Arthur	Junior porter and gate keeper	2/6 per day	*Vice* S Dunne
17 ,,	Dwyer Ellen	Gatekeeper	Free house	*Vice* N O Brien
20 ,,	Cusack, Mary	Station caretaker	2/6 per week and free house	At Murwillumbah
21 ,,	Wilson, William	Porter	7/ per day	*Vice* W Cherry.
24 ,,	Minch, Mrs Mary	Gatekeeper	10/ per week	*Vice* J Sargent
30 ,,	Scanlon, William	Porter	7 per day	Reinstated *vice* E. McGarrigle
31 ,,	Stewart Bruce	Assistant berthing master	9/ per day	*Vice* J Paton
3 Feb	Hainsworth, Hugh	Junior porter	2/6 per day	*Vice* J Chin
3 ,,	Nicholls, Elizabeth	Gatekeeper	7/ per week	At Galong
7 ,,	Smith, William	Postal assistant	10/ per week	*Vice* A Norton
7 ,,	Steenson, William	Junior porter	2/6 per day	At Lismore
7 ,,	Layton, Walter	Junior porter	2/6 per day	*Vice* J Blenkinsopp
10 ,,	O Regan Joseph	Junior porter	3/4 per day	*Vice* J Smethurst
11 ,,	Stone, Charles	Junior porter	2/6 per day	*Vice* A Wellington
13 ,,	Marshall, Mrs E	Gatekeeper	7/ per week	*Vice* F Robinson
14 ,,	Ormsby, Gore	Telegraph probationer	2/6 per week	*Vice* E Broderick.
17 ,,	D Arcy John	Junior porter	2/6 per day	*Vice* J Bowes
18 ,,	Muir, William	Telegraph probationer	2/6 per week	*Vice* R Kerr
18 ,,	Cottingham, Francis	Telegraph probationer	2 6 per week	*Vice* C Roche
18 ,,	Watts Joseph	Junior porter	2/6 per day	*Vice* G Tracy
18 ,,	Nesbitt, Elizabeth	Gatekeeper	Free house	*Vice* J Stumbles.
20 ,,	Doig, Ada	Gatekeeper	7/ per week	*Vice* R Olsson
20 ,,	Whiteoak, Thomas	Junior porter	2/6 per day	*Vice* G Diamond
24 ,,	Dent, Samuel	Apprentice clerk	£30 per annum	*Vice* E Paddison
26 ,,	Cook, George	Junior porter	2/6 per day	*Vice* P Roberts
26 ,,	Roffe, Jane	Gatekeeper	Free house	*Vice* J West
28 ,,	Carberry, Edward	Junior porter	2/6 per day	*Vice* J Harris
29 ,,	Fullerton, James	Junior porter and gate keeper	2 6 per day	*Vice* F West
29 ,,	Baxter, Mary ...	Gatekeeper	Free house	*Vice* R Baxter
2 Mar	Cavanough Wesley . .	Telegraph probationer	2/6 per week	At Bungendore.
2 ,,	Spence, Arthur	Junior porter	5/ per day	*Vice* W Walsh
4 ,,	Montgomery Alexander	Junior porter	2/6 per day	*Vice* A Heaton
4 ,,	Jones Elizabeth	Gatekeeper	Free house	*Vice* S Grant
7 ,,	Hansen, Clara	Gatekeeper	7/6 per week	*Vice* A Potter
11 ,,	Owen, Mrs Agnes . .	Gatekeeper	Free house	*Vice* Mrs Fuller

APPENDIX III—*continued.*

Date	Name	Position	Rate	Remarks
1896		CHIEF TRAFFIC MANAGER'S BRANCH—*continued*		
12 Mar	Summergreen, Mary	Gatekeeper	7/ per week & free house	*Vice* K Ferrario
16 ,,	Roche, Charles	Junior porter	5/ per day	Reinstated *vice* C Herring
20 ,,	Egan, Alice	Gatekeeper	Free house	*Vice* R Smith
20 ,,	M'Lennan Annie	Gatekeeper	10 per week	*Vice* M Pittendrigh
21 ,,	Westall, Robert	Junior porter	2/6 per day	*Vice* G Horan
23 ,,	Hilderbrand Clara	Station caretaker	5 per week	At Barber's Creek
25 ,,	Chicken William	Junior porter	2/6 per day	*Vice* E Smith
25 ,,	Tait, John	Junior porter	2 6 per day	*Vice* W Attwell
25 ,,	Cahill, Elizabeth	Gatekeeper	10/ per week	*Vice* M Cahill
25 ,,	Hyslop William J	Junior porter	2 6 per day	*Vice* J Bromilow
25 ,,	M'Kenzie, George	Junior porter	2/6 per day	*Vice* W Clarke
25 ,,	Ross, John	Junior porter	4/2 per day	*Vice* F Hawkins
25 ,,	Adlide William	Junior porter	2/6 per day	*Vice* S Smith
31 ,,	Gorman, George	Junior porter	2/6 per day	*Vice* J Richardson
31 ,,	Waidell Montague	Junior porter	2 6 per day	*Vice* H M'Dougall
31 ,,	Lecky, James	Porter	6/ per day	*Vice* J Caldell
		SIGNAL AND INTERLOCKING BRANCH		
14 Feb	Caldwell John	Signal fitter	9/ per day	
14 ,,	Currie, William	Signal fitter	10 per day	
21 ,,	Pilcher, Charles	Fitter	10 8 per day	
21 ,,	Whitehead William	Fitter	10/ per day	
21 ,,	Rigg, Walter	Turner	10/ per day	
21 ,,	Dawson, Stephen	Labourer	7/ per day	
21 ,,	Granger, John	Labourer	7/ per day	
21 ,,	Lord, Henry	Striker	7/6 per day	
21 ,,	Mills, Charles	Labourer	8 per day	Transferred from Extra Staff
21 ,,	Watt, Alfred	Labourer	7/6 per day	
21 ,,	Adams, William	Assistant signal fitter	8 per day	
21 ,,	Hudson Amos	Signal fitter	10/ per day	
21 ,,	Cater, Enos	Labourer	7/6 per day	
21 ,,	Poole Arthur	Labourer	7/6 per day	
6 Mar	Notman William	Driller	7/6 per day	
6 ,,	Richards Charles	Labourer	7/6 per day	
11 ,,	Hodgson Joseph	Labourer	7/6 per day	Re employed, *vice* C Thompson
		ELECTRICAL ENGINEERS BRANCH		
7 Feb	Creighton, John	Electric light engineman	10/ per day	*Vice* G Placide
		COMPTROLLER OF STORES BRANCH		
1 Jan	Ramsden, Ewart D	Apprentice Clerk	£30 per annum	*Vice* J Crickard
		TRAMWAYS—LOCOMOTIVE BRANCH		
21 Jan	Gibbeson, Frederick	Shop boy	2/3 per day	*Vice* J Antoine
12 Feb	Lindsay, Edward S	Apprentice	10d per day	*Vice* J Vintzentz
14 ,,	Dear, Joseph E	Shop boy	4 per day	Transferred from Extra Staff
14 ,,	Doyle, Joseph	Labourer	7/ per day	*Vice* J Doody
14 ,,	M'Keown, William F	Fireman	7/6 per day	Transferred from Extra Staff
14 ,,	Duke, Alfred	Cleaner	6/6 per day	*Vice* W Campbell
14 ,,	Paterson, Arthur A	Cleaner	6/6 per day	*Vice* J Tinsley
		TRAMWAYS—TRAFFIC BRANCH		
27 Jan	Bayliss, Walter	Flagman	6 per day	*Vice* W Thick
4 Feb	Muir, John G S	Junior conductor	5/ per day	*Vice* J Blundell
		TRAMWAYS—MAINTENANCE BRANCH		
28 Feb	Ivory, William	Horse and Driver	11/ per day	*Vice* J Andrews

APPENDIX IV.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No 44 of the Railway Act, showing the Removals of Employees from the 1st January to the 31st March, 1896

Date	Name	Position	Rate	Remarks
1896		TRAFFIC AUDITOR'S BRANCH		
21 Mar	Patterson Thomas	Audit Inspector	£290 per annum	Resigned
28 ,,	M'Keown Sidney A	Junior Clerk	£90 per annum	Resigned
		ENGINEER IN CHIEF FOR EXISTING LINES BRANCH		
1 Jan	Smith William	Ganger	9 per day	Retired
13 ,,	Nolan, Patrick J	Fettler	7 per day	Deceased
14 ,,	Boyle James	Ganger	8 6 per day	Deceased
16 ,,	O'Leary, Denis	Fettler	7/6 per day	Deceased
19 ,,	Mulheron, Michael	Fettler	7/6 per day	Deceased
20 ,,	Flynn Michael	Labourer	7/6 per day	Resigned
20 ,,	Fanning Michael	Fettler	7 6 per day	Deceased
22 ,,	Whelan William	Fettler	7/6 per day	Deceased
24 ,,	Potter William	Ganger	9 per day	Deceased
31 ,,	Day Christopher	Labourer	7 6 per day	Resigned
12 Feb	Reed William	Fettler	7 6 per day	Resigned
12 ,,	Ferguson, John	Fettler	7/6 per day	Deceased
13 ,,	Nutland Worthy	Labourer	7/6 per day	Retired
13 ,,	Wrigley, Joseph	Fettler	7 6 per day	Resigned
5 Mar	Robinson Frederick	Office boy	4/ per day	Resigned
6 ,,	Perkins John	Labourer	7/6 per day	Resigned
6 ,,	Clitt, William	Labourer	7/ per day	Resigned
9 ,,	Ogilvie, James	Fettler	7/6 per day	Retired
13 ,,	Layton, James	Fettler	7/6 per day	Deceased
14 ,,	O'Hara Francis	Fettler	7/6 per day	Resigned
		CHIEF MECHANICAL ENGINEER'S BRANCH		
3 Jan	Viney Henry	Machinist	8/6 per day	Deceased
3 ,,	Speerin John	Cleaner	7 per day	Discharged
23 ,,	Fisher Robert	Examiner	9 per day	Deceased
24	Allen William	Fireman	10/ per day	Discharged
4 Feb	Francis, William	Messenger	7/ per day	Deceased

APPENDIX IV—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
1896.		CHIEF MECHANICAL ENGINEER'S BRANCH—*continued.*		
4 Feb.	Hunter, Robert	Labourer	7/- per day	Resigned.
10 ,,	Mackel, James	Fireman	8/- per day	Discharged.
13 ,,	Gorrie, David	Fireman	10/ per day	Deceased.
20 ,,	Smith, Andrew	Fuelman	8/- per day	Deceased.
25 ,,	Gray, Frederick	Boilermakers' improver.	7/- per day	Resigned.
28 ,,	Pearce, William George	Turner	11/ per day	Discharged
21 Mar.	Beet, Ashby	Carriage builder	10/6 per day	Resigned.
21 ,,	Grills, Richard	Boilermakers' assistant.	7/- per day	Resigned.
28 ,,	Newman, John G.	Cadet	5/- per day	Resigned.
1895.		CHIEF TRAFFIC MANAGER'S BRANCH.		
28 Dec.	M'Grath, Francis	Junior porter	5/- per day	Resigned.
31 ,,	Blenkinsopp, John	Junior porter	5/- per day	Resigned.
1896				
6 Jany.	Collumb, James	Night officer	£140 per ann.	Discharged.
6 ,,	Lucas, William	Night officer	£130 per ann.	Deceased
13 ,,	Hainsworth, Frederick	Guard	11/- per day	Deceased.
15 ,,	Scanlon, William	Night officer	£130 per ann.	Discharged.
16 ,,	Roche, Charles	Junior Porter	5/- per day	Discharged.
17 ,,	Squires, Herbert	Junior Clerk	£110 per ann.	Discharged.
17 ,,	O'Brien, Nellie	Gatekeeper	Free house	Resigned
17 ,,	Chivers, Lawson	Telegraph Probationer	2/6 per week	Deceased
24 ,,	Sargent, John	Gatekeeper	15/ per week	Discharged.
26 ,,	Byrnes, John	Officer-in-charge	£140 per ann.	Resigned
2 Feb	West, Frederick	Junior Porter	5/- per day	Resigned
5 ,,	M'Garrigle, Edward	Shunter	7/6 per day	Resigned.
5 ,,	Chin, James	Shunter	7/- per day	Resigned.
5 ,,	Stephens, Charles	Signalman	8/6 per day	Resigned.
5 ,,	Bowes, Joseph	Porter	7/- per day	Resigned.
6 ,,	Diamond, George	Shunter	8/- per day	Resigned.
6 ,,	Heaton, Arthur	Porter	7/6 per day	Resigned.
6 ,,	Hickey, Ernest	Night officer	£130 per ann	Resigned.
6 ,,	Horan, George	Night officer	£130 per ann	Resigned.
7 ,,	Harris, James	Porter	7/6 per day	Discharged.
7 ,,	Roberts, Percy	Porter	7/- per day	Resigned.
13 ,,	Cahill, Mrs Mary	Gatekeeper	10/- per week	Resigned.
13 ,,	Robinson, Frances	Gatekeeper	7/- per week	Resigned.
14 ,,	Spilsbury, John	Assistant guard	8/6 per day	Resigned.
17 ,,	Minch, Mary	Gatekeeper	10/- per week	Resigned
18 ,,	Stumbles, Jane	Gatekeeper	Free house	Resigned.
20 ,,	Caldell, John	Porter	6/- per day	Discharged.
20 ,,	Olsson, Rebecca	Gatekeeper	7/- per week	Resigned
20 ,,	Cowley, Jessie	Station caretaker	Free house	Discharged.
21 ,,	Paddison, Edward	Night officer	£130 per ann.	Resigned
23 ,,	M'Donald, Neil	Special inquiry officer	7/- per day	Discharged; position saved
25 ,,	West, Julia	Gatekeeper	Free house	Resigned.
25 ,,	Castleman, Charles	Porter	7/- per day	Resigned
27 ,,	Burns, Andrew	Porter	7/6 per day	Discharged.
27 ,,	Webster, Foster	Guard	10/6 per day	Discharged
29 ,,	Smith, Edward	Porter	7/- per day	Discharged.
29 ,,	Attwell, William	Porter	7/- per day	Resigned.
29 ,,	Baxter, Robert	Gatekeeper	Free house	Resigned
3 Mar..	Herring, Charles	Junior porter	4/2 per day	Discharged.
4 ,,	Grant, Sophia	Gatekeeper	Free house	Resigned.
6 ,,	Corrigan, Burton	Porter	7/- per day	Resigned.
6 ,,	Bromilow, Joseph	Porter	7/- per day	Resigned
6 ,,	Clarke, William	Junior porter	5/- per day	Resigned
7 ,,	Sanderson, George	Porter	8/- per day	Retired
7 ,,	Potter, Annie	Gatekeeper	7 6 per week	Resigned.
9 ,,	Cox, Henry	Officer in-charge	£150 per ann.	Deceased.
10 ,,	Farrell, Thomas	Junior porter	5/- per day	Discharged.
10 ,,	Fuller, Mrs. Grace	Gatekeeper	Free house	Discharged
13 ,,	Sutcliffe, William	Junior clerk	£90 per ann.	Discharged.
13 ,,	Jefford, Eustace	Night officer	£130 per ann	Resigned
13 ,,	Ferrario, Kate	Gatekeeper	10/- per week and free house.	Resigned.
15 ,,	Weedon, William	Clerk	£165 per ann.	Retired.
15 ,,	Philson, John	Gatekeeper	15/- per week	Discharged
16 ,,	Breeze, Archibald	Operator and clerk	£90 per ann.	Discharged.
19 ,,	M'Dougall, Henry	Porter	7/6 per day	Discharged.
20 ,,	Pittendrigh, Minnie	Gatekeeper	10/- per week	Resigned
20 ,,	Smith, Rose	Gatekeeper	Free house	Discharged
31 ,,	Richardson, John	Night officer	£130 per ann	Resigned.
		SIGNAL AND INTERLOCKING BRANCH.		
11 Feb..	Evans, Ernest A	Fitter	12/- per day	Resigned.
9 Mar..	Thompson, Charles	Labourer	7/6 per day	Resigned
		ELECTRICAL ENGINEER'S BRANCH.		
7 Mar..	Fabris, Edgar	District Inspector	8/- per day	Discharged.
		TRAMWAYS—LOCOMOTIVE BRANCH		
8 Jan..	Greig, Robert A	Driver	13/- per day	Resigned.
13 ,,	Hippitt, Jesse	Fireman	8/ per day	Resigned
13 ,,	M'Gregor, Robert	Fitter	8/- per day	Retrenchment.
15 ,,	Swan, William	Boilermaker	10/- per day	Retrenchment
15 ,,	M'Queen, John	Boilermaker	10/- per day	Retrenchment
15 ,,	Byrne, Harold	Apprentice	5/- per day	Retrenchment.
16 ,,	Perrin, Charles	Driver	11/ per day	Deceased
7 Feb	Osborne, Thomas	Driver	13/ per day	Left the Service
13 ,,	Beckinsale, Alfred	Fireman	7/6 per day	Resigned
19 Mar..	Frappell, Arthur	Boy labourer	3/- per day	Resigned.
26 ,,	Timbrell, William	Apprentice	2/- per day	Resigned.
		TRAMWAYS—TRAFFIC BRANCH.		
24 Jan	Audsley, Thomas R.	Conductor	8/- per day	Resigned.
24 ,,	Blundell, James	Conductor	8/- per day	Resigned
24 ,,	Keene, William T.	Junior conductor	7/- per day	Resigned
24 ,,	M'Adam, John L.	Junior conductor	7/- per day	Resigned.
20 Feb	Cowdroy, Gilbert	Car cleaner	7/- per day	Resigned
9 Mar..	Dolan, William	Senior conductor	9/- per day	Discharged.
12 ,,	Horrocks, Benjamin	Flagman	6/- per day	Resigned
12 ,,	Keshan, Henry	Junior conductor	7/- per day	Discharged.
18 ,,	Payne, John J	Inspector	12 - per day	Retired
21 ,,	Larmour, Andrew	Junior conductor	6/- per day	Discharged
28 ,,	Cowdroy, Alfred A.	Conductor	8/- per day	Resigned
30 ,,	Johnson, John H.	Conductor	8/- per day	Discharged.
		TRAMWAYS—MAINTENANCE BRANCH		
8 Jan.	Collins, Thomas	Labourer	7/6 per day	Deceased
30 ,,	Johnston, Thomas	Labourer	7/6 per day	Discharged.
25 Feb.	Dorahy, William	Horse and driver	11/- per day	Discharged.
28 ,,	Andrews John	Horse and driver	11/- per day	Discharged.

[6d.] Sydney: Charles Potter, Government Printer—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDING 30TH JUNE, 1896.)

Printed under No. 13 *Report from Printing Committee*, 18 *August*, 1896.

Offices of the Railway Commissioners of New South Wales,
Sydney, 31st July, 1896.

TO THE HONORABLE THE MINISTER OF RAILWAYS,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report, for the quarter ending 30th June, 1896, upon the subjects specified, viz. :—

I.—STATE OF THE TRAFFIC.

RAILWAYS.	Quarter ending 30th June, 1895.	Quarter ending 30th June, 1896.
Miles open	2,531¼	2,531¼
Revenue — 1895. 1896. Passenger £254,670 £261,587 Merchandise £564,666 £333,985	£619,336	595,572
Expenditure	£390,247	371,510
Train miles run	1,810,765	1,795,375
Earnings per train mile	6/10	6/7½
Expenditure per train mile	4/3¾	4/1¾
Percentage—Expenditure to earnings	63·01	62·38
Number of passengers	5,137,465	5,383,373
Tonnage of goods traffic	982,774	781,811
Tonnage of live stock traffic	43,616	38,132

TRAMWAYS.	Quarter ending 30th June, 1895.	Quarter ending 30th June, 1896.
Miles open	61	61
Revenue	70,679	74,090
Expenditure	61,660	63,045
Train miles run	646,201	721,833
Earnings per train mile	2/2¼	2/0¾
Expenditure per train mile	1/11	1/9
Percentage—Expenditure to earnings	87·24	85·09
Number of fares collected	16,287,171	17,448,019

[587 copies—Approximate Cost of Printing (labour and material), £20 8s. 6d.]

RAILWAYS.

II.—Condition of the Lines.

A report as to the condition of the lines will be found as an Appendix, page 4.

III.—Special Rates.

A statement of the special rates, and the reasons for making the same, will be found attached, page 4.

IV.—Staff.

These returns are given as an Appendix, pages 5 to 10.

General Remarks.

The traffic during the quarter has been considerably affected by the after-effects of the drought, the business in tallow, skins, hides, &c., &c., showing a considerable falling off.

The strike of coal-miners in the Newcastle district, which commenced at the end of April and continued throughout May and June, also injuriously affected the quarter's revenue.

The revenue from the goods and live-stock traffic generally shows a falling off of £30,681; the coaching traffic, however, shows an increase of £6,917, leaving a total decrease of £23,764.

The working expenses were reduced by £18,737.

Condition of the Lines and Accommodation for the Traffic.

The lines are in excellent condition, and a large increase in traffic can be dealt with without materially increasing the expenses.

TRAMWAYS.

The traffic shows sign of improvement, the services in various directions have been improved, and so soon as the necessary money is voted by Parliament for converting the existing lines to the electric system, a large development of traffic may be looked for.

We have the honor to be,
Sir,
Your most obedient servants,

E. M. G. EDDY,
Chief Commissioner.

CHARLES OLIVER,
Commissioner.

W. M. FEHON,
Commissioner.

APPENDIX I.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

Sir, Office of Engineer-in-Chief for Existing Lines, 2nd July, 1896.

I have to report for the information of the Commissioners that the Permanent-way and Works have been satisfactorily maintained during the past quarter.

Relaying, resleepering, and reballasting operations have been steadily carried on and the lines generally have been much improved.

The curve improvements near Linden and Faulconbridge have been completed, and others in the vicinity of Valley Heights, Woodford, and Hazelbrook are well advanced, and a commencement has also been made near Lawson and Katoomba.

The alterations to cut down the steep grades between Wellington and Maryvale, and also between Geurie and Dubbo, have been completed, and good progress is being made with similar work between Maryvale and Geurie, and between Locksley and Brewongle. On the Southern Line the cutting out of the steep grades near Moss Vale and Exeter has been commenced.

I have, &c.,

THOMAS R. FIRTH,

Engineer-in-Chief for Existing Lines.

The Secretary to the Railway Commissioners.

APPENDIX II.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

STATEMENT, in accordance with clause No. 44 of the Railway Act, showing the Special Rates which have been made, and the reasons for making such rates, quarter ending 30th June, 1896.

Articles.	Rate.	Reason for rate.
Coal	Carson's Siding to Darling Harbour, Liverpool, Milson's Point, and intermediate stations, 7s. 8d. per ton, except where the ordinary rate is cheaper.	To equalise rates.
Flour	The maximum charge for flour in 8-ton lots per each 4-wheeled truck between the undermentioned stations to be as follows:— Bathurst to Byrock or Bourke... 20s. per ton. Blayney „ „ ... 19s. „ Millthorpe „ „ ... 18s. 8d. „ Orange „ „ ... 18s. 2d. „ Wellington „ „ ... 16s. „ Dubbo „ „ ... 16s. „	
Horses	Where two or three horses belonging to one owner are forwarded to Agricultural Shows in one truck, they must be reloaded on the return journey in the same way as carried to the show; otherwise the ordinary charges will be imposed for each additional truck used.	To ensure reasonable payment for service.
Waxworks	Second-class rates when carried in connection with travelling company.....	To secure traffic.
Sheep	Carried from Trangie and Narromine to Bourke at £3 per truck	To re-stock stations and secure traffic.
Wheat	Special consignments to Goulburn, per "Ross-shire" and "Cavalliere Ciampa," sent in truck loads at convenience of Department, A rates.	To meet exceptional circumstances.
Bricks	Shunting charge from wharf to the Goods Yard, Newcastle, 4s. per four-wheeled truck.	do
Rails	From Darling Harbou to Dapto for Lake Illawarra Railway, B rates.....	To secure traffic.
Contractor's Plant	From Darling Harbour to Dapto for Lake Illawarra Railway, B + 50 % ...	do

APPENDIX III.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No. 44 of the Railway Act, showing the Appointments of Employees from the 1st April to the 30th June, 1896.

Date.	Name.	Position.	Rate.	Remarks.
		TRAFFIC AUDITOR'S BRANCH.		
22 June	Fleming, William A.	Apprentice clerk	£30 per ann.	*Vice* J. B. Byrnes.
		ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.		
1 April	Jameson, William	Labourer	7/6 per day	*Vice* W. Laughton.
1 ,,	Kay, William J.	Labourer	7/- per day	*Vice* M New
3 ,,	Pickin, William P.	Office boy	2/- per day	Transferred from extra staff.
3 ,,	Ingersole, James	Labourer	6/6 per day	*Vice* G. Marks.
3 ,,	Pruen, Percival G	Office boy	3 per day	Transferred from extra staff.
3 ,,	Smith, Thomas	Fettler	7/6 per day	
9 ,,	Taylor, George	Blacksmith	8/- per day	
9 ,,	Hudson, Thomas	Office boy	2 per day	
10 ,,	Sherwin, John	Labourer	7/- per day	*Vice* D. Field
10 ,,	Freer, Archibald	Assistant weighbridge fitter.	3/6 per day	Transferred from extra staff
10 ,,	Cantwell, Michael	Labourer	7/ per day	*Vice* C Elsley.
10 ,,	Russell, Edward D.	Office boy	2 - per day	Transferred from extra staff.
10 ,,	Bradwell, John	Labourer	7 - per day	*Vice* J. Perkins
10 ,,	Duncanson, John	Labourer	7/- per day	*Vice* W. Nutland.
10 ,,	Cole, Charles W.	Labourer	7/ per day	*Vice* F. O'Hara.
15 ,,	M'Gowan, John	Office boy	2/ per day	Transferred from extra staff.
17 ,,	Bald, John	Plumber	10/8 per day	*Vice* C M'Kinn.
17 ,,	Hatfield, Herbert	Office boy	3/ per day	Transferred from extra staff.
17 ,,	Bilton, Joseph	Office boy	3 per day	
17 ,,	Burton, Arthur	Fettler	7/6 per day	
17 ,,	Cook, John	Office boy	3 - per day	
19 ,,	Freer, John	Labourer	7/- per day	*Vice* R. Ferry.
21 ,,	O'Sullivan, Denis	Fettler	7/- per day	Transferred from extra staff.
24 ,,	Brown, William	Office boy	2 6 per day	
24 ,,	Woodward, Charles	Labourer	7/ per day	*Vice* W Clift.
25 ,,	Marshall, Colin	Labourer	7/- per day	Transferred from extra staff.
4 May	Harvey, Thomas	Labourer	7/6 per day	*Vice* J. Wrigley.
4 ,,	Carroll, Patrick	Labourer	7/ per day	*Vice* T. Flynn.
8 ,,	Greenan, John	Labourer	7/ per day	Transferred from extra staff.
8 ,,	Guthrie, Thomas	Labourer	7/ per day	
8 ,,	Vaughan, John	Office boy	3/ per day	
8 ,,	Abrahams, John A.	Labourer	7/ per day	*Vice* G. Hewish.
8 ,,	Doherty, Edward	Labourer	7/- per day	*Vice* W. Rowland.
9 ,,	Heeger, Walter	Office boy	2 per day	Transferred from extra staff.
15 ,,	Banks, Charles	Fitter	8/ per day	
15 ,,	Clark, George	Carpenter	8/- per day	
15 ,,	King, George	Labourer	6/- per day	*Vice* A. Grindrod.
15 ,,	Jansen, George	Fettler	7/6 per day	Transferred from extra staff.
15 ,,	Gilligan, Charles	Fettler	7/6 per day	
18 ,,	Jones, Charles D.	Office boy	2/ per day	
19 ,,	Cotter, Edwin	Office boy	2/- per day	
5 June	Bennett, Henry	Fencer	7/ per day	
12 ,,	Juratowitch, Nicholas	Fettler	7/6 per day	*Vice* W. Whelan.
15 ,,	Campey, Alfred	Office boy	2/- per day	Transferred from extra staff.
		CHIEF MECHANICAL ENGINEER'S BRANCH.		
1 April	Pendleton, Simeon	Apprentice	2/ per day	
1 ,,	Crowther, Joseph H.	Apprentice	1/3 per day	
1 ,,	Holloway, John B.	Apprentice	10d. per day	
1 ,,	Davidson, James	Apprentice	2/- per day	
1 ,,	Harvey, Alfred	Apprentice	1/3 per day	
1 ,,	Nelmes, Arthur R.	Apprentice	1/3 per day	
1 ,,	Baker, Charles	Cleaner	2/6 per day	
1 ,,	Poulton, Arthur	Apprentice	2/- per day	
1 ,,	Antill, Albert W.	Apprentice	2/ per day	
1 ,,	Anderson, Albert	Apprentice	3 - per day	
1 ,,	Sheehan, Frederick	Office boy	10/- per week	
1 ,,	Fell, George	Shop boy	5/- per day	
1 ,,	Adams, Andrew J.	Shop boy	2 3 per day	
1 ,,	Carr, James	Shop boy	4/ per day	
1 ,,	Roberts, George F.	Shop boy	2 6 per day	
1 ,,	Watsford, Horace	Apprentice	1/6 per day	
1 ,,	Frost, Thomas	Apprentice	2/ per day	
1 ,,	Perkins, John	Apprentice	1 3 per day	
1 ,,	Atkinson, Herbert C.	Apprentice	2/- per day	
1 ,,	Bristow, Stuart	Apprentice	1 3 per day	
1 ,,	Kemp, Walter J. R	Apprentice	1 3 per day	
1 ,,	Harrex, William	Apprentice	10d per day	
1 ,,	Branch, William	Shop boy	5/- per day	
1 ,,	Cooper, Arthur J	Steam hammer boy	3/- per day	
1 ,,	Littlejohn, Robert	Steam hammer boy	5/- per day	
1 ,,	Strange, Walter	Steam hammer boy	4/- per day	
1 ,,	Tully, Alfred H.	Steam hammer boy	3/- per day	
1 ,,	Malley, John F.	Shop boy	4/- per day	Transferred from extra staff.
1 ,,	Mijch, Frederick W.	Shop boy	1/3 per day	
1 ,,	Logan, Robert	Apprentice	5/- per day	
1 ,,	Evans, William	Apprentice	5/ per day	
1 ,,	Baldwin, Horace	Apprentice	2/- per day	
1 ,,	Williams, William	Apprentice	5/- per day	
1 ,,	Vaughan, John	Apprentice	3/- per day	
1 ,,	McNamara, James	Apprentice	2/- per day	
1 ,,	Brears, Albert	Apprentice	1/3 per day	
1 ,,	Cape, Arthur E.	Apprentice	2/- per day	
1 ,,	Paisley, Frederick	Apprentice	10d. per day	
1 ,,	Thompson, Phineas	Apprentice	3/- per day	
1 ,,	Rayward, Ernest	Apprentice	5/- per day	
1 ,,	Bernberg, Colman	Apprentice	5/- per day	
1 ,,	Jones, Frederick	Apprentice	5/- per day	
1 ,,	Hall, James D.	Apprentice	2/- per day	
1 ,,	Warner, Austin	Apprentice	2/- per day	
1 ,,	Douglas, William H.	Apprentice	1/3 per day	
1 ,,	Fernley, George	Apprentice	10d. per day	
1 ,,	Shields, James H	Apprentice	1/3 per day	
1 ,,	Heron, Alfred	Apprentice	3/- per day	
1 ,,	Scott, William	Apprentice	3/- per day	
1 ,,	Newton, Arthur	Apprentice	10d. per day	
1 ,,	Langley, William T.	Apprentice	10d. per day	
1 ,,	Clark, Edward.	Apprentice	10d per day	
1 ,,	Petrie, Norman C.	Apprentice	10d. per day	

APPENDIX III—*continued.*

Date	Name	Position	Rate	Remarks
1896		CHIEF MECHANICAL ENGINEER'S BRANCH—*continued*		
1 April	Henderson Stuart	Apprentice	10d per day	*Vice* J Dickinson
1 ,,	Gilbert, Robert	Apprentice	5 per day	
1 ,,	M Guinness James H	Apprentice	5/ per day	
1 ,,	Townley, Frank	Cleaner	5/ per day	
1 ,,	O Shannessy, James	Cleaner	2 6 per day	
1 ,,	Heron, David	Cleaner	4/ per day	
1 ,,	McLachlan, Archibald	Cleaner	5 per day	
1 ,,	Randall Percy	Cleaner	5 per day	
1 ,,	Colley, Walter	Call boy	2/6 per day	
1 ,,	Hainsworth William	Call boy	2/6 per day	
1 ,,	McCarney, Joseph P	Call boy	2 6 per day	
1 ,,	Crawford, Robert R	Telephone boy	3/3 per day	Transferred from extra staff
1 ,,	Mijch, John	Telephone boy	3 3 per day	
1 ,,	Seach, Sidney	Cleaner	4 per day	
1 ,,	Robson, Thomas	Cleaner	4/ per day	
1 ,,	Hinds, John	Cleaner	4/ per day	
1 ,,	Duncan, Arthur	Boy	5/ per day	
1 ,,	Branch, Frank	Cleaner	5/ per day	
1 ,,	Spicer, George	Cleaner	5/ per day	
1 ,,	Graham William	Cleaner	5/ per day	
1 ,,	Abbott, Walter	Store boy	3 per day	
1 ,,	Skelton, George	Call boy	2/6 per day	
1 ,,	Toovey, Charles E	Improver	7/ per day	*Vice* J Reid
1 ,,	Maloney, John	Boilermaker's assistant	7/ per day	*Vice* J Cannon.
10 ,,	Duncan, William	Cleaner	4/ per day	
10 ,,	Broadhead, Joseph T	Cleaner	5/ per day	Transferred from extra staff
10 ,,	Richardson Thomas	Telephone Boy	2 6 per day	
17 ,,	Stedman, Leslie	Apprentice	1/3 per day	
17 ,,	Handley, Ernest	Apprentice	5/ per day	*Vice* F Crawford
17 ,,	Cheeseman Arthur	Apprentice	2 per day	
17 ,,	Goodwin, George	Apprentice	10d per day	Transferred from extra staff
17 ,,	Powys Leslie O	Apprentice	10d per day	
17 ,,	Gray, Herbert	Apprentice	1/3 per day	
17 ,,	Blackwood James	Striker	7/ per day	*Vice* J Watts
17 ,,	Wells, Edward	Steam hammer boy	5 per day	Transferred from extra staff
17 ,,	Hurney, Michael	Steam hammer boy	1/9 per day	
17 ,,	Ralph Horace	Shop boy	2 3 per day	
17 ,,	Silk John	Boilermaker	10/ per day	*Vice* A Paton
17 ,,	Kitching, William	Turner	10/ per day	*Vice* A Nightingale
17 ,,	Harrison, Edward	Car builder	10/ per day	
17 ,,	O Neill, Charles	Labourer	7/ per day	Transferred from extra staff
17 ,,	Crowly, Ambrose	Labourer	7 per day	
17 ,,	Horrigan James	Labourer	7/ per day	
17 ,,	Dunne, Joseph	Apprentice	10d per day	*Vice* F Gray
17 ,,	Bilton Charles	Striker	7/ per day	*Vice* J Horrocks
17 ,,	Campling Albert	Improver	7/ per day	Transferred from extra staff
17 ,,	Hudson Frederick A	Lifter	8/ per day	*Vice* C Steward
17 ,,	Williams, Sidney	Boy	4 6 per day	Transferred from extra staff
24 ,,	Sparrow, George	Cleaner	7 per day	*Vice* C M Byrne
24 ,,	Ambrose John	Fuelman	8 per day	
1 May	Logan, William	Apprentice	2/ per day	
1 ,,	Hill, John	Labourer	7/ per day	
1 ,,	Twining, Frederick	Labourer	7/ per day	
1 ,,	Parsons, Robert	Labourer	7/ per day	
1 ,,	Weaver, Frederick	Shop boy	5/ per day	
1 ,,	Maher Michael	Labourer	7/ per day	
1 ,,	Whitmore William	Painter's assistant	6/6 per day	
1 ,,	Twyford James	Painter's assistant	7/ per day	Transferred from extra staff.
1 ,,	Root, Alexander	Cleaner	5/ per day	
1 ,,	Robb, John	Fuelman	9/ per day	
1 ,,	Newton, Thomas	Watchman	7/ per day	
1 ,,	Boulder Oliver	Labourer	7/ per day	
1 ,,	Bussey David	Office boy	4/ per day	
1 ,,	Ellis William	Call boy	2 6 per day	
1 ,,	Mayfield John	Fuelman	7/ per day	
1 ,,	King, Thomas	Cleaner	4/ per day	
1 ,,	Hunter, Joseph	Boilermaker's assistant	7/ per day	
1 ,,	Scott, John	Fuelman	7/ per day	
8 ,,	Craven William	Apprentice	10d per day	*Vice* W Watts.
15 ,,	Johnson, William	Striker	7/ per day	
15 ,,	Gietz, Alexander	Labourer	7 per day	
15 ,,	Brown, George T	Cleaner	7 per day	
15 ,,	Taylor, George	Boilermaker's assistant	7/ per day	
15 ,,	Breeze, William	Apprentice	2 per day	Transferred from extra staff.
15 ,,	Baines John	Foreman cleaner	8/ per day	
15 ,,	Dearing Edward	Fuelman	7/ per day	
15 ,,	Lee, George T	Cleaner	7 per day	
15 ,,	Shepphead, Henry	Fuelman	6 6 per day	
15 ,,	Bottrill Frederick C	Shop boy	1/9 per day	*Vice* R Tyson.
15 ,,	Berg Carl O	Apprentice	10d per day	*Vice* A Belt
18 ,,	Bruce George H	Apprentice	10d per day	*Vice* E Hume
18 ,,	Hay, Edward A	Apprentice	10d per day	*Vice* J Newman.
20 ,,	Kenny, Francis	Shop boy	1 9 per day	*Vice* P Fisher.
22 ,,	Williams, Enoch	Labourer	7/ per day	
22 ,,	Ashton Arthur	Telephone boy	2/6 per day	
29 ,,	Laycock, Williamson	Labourer	8 per day	
29 ,,	Neal, William James	Striker	7/ per day	Transferred from extra staff.
29 ,,	Love, William	Painter's assistant	7 per day	
29 ,,	Townend, Benjamin	Painter's assistant	7/ per day	
5 June	Gee, George	Fitter	10/ per day	
12 ,,	Townend, William H	Labourer	6 6 per day	
		CHIEF TRAFFIC MANAGER'S BRANCH		
25 Mar	Carpenter, Frederick	Apprentice clerk	£30 per annum	*Vice* W Lucas
25 ,,	Bone, Herbert W	Junior porter	2/6 per day	*Vice* C Castleman
30 ,,	Schofield John W	Telephone boy	10/ per week	*Vice* J Seddon
1 April	Fisher, Frederick A	Junior porter	2/6 per day	*Vice* F Ambrosoli
1 ,,	Dickey, Leslie R	Junior porter	2 6 per day	*Vice* S Frew
1 ,,	Carson, Albert E G	Junior porter	2/6 per day	*Vice* F Porter
1 ,,	Milligan, Robert	Junior porter	2/6 per day	*Vice* T Crook
2 ,,	Moore Richard	Telegraph probationer	2/6 per week	*Vice* G Sanderson.
3 ,,	Ellis, Mary	Gatekeeper	7/ per week	*Vice* A Ellis
3 ,,	Bragg, Arthur	Junior porter	2/6 per day	*Vice* T Hughes
9 ,,	Yandell, Kate	Gatekeeper	7/ per week	*Vice* M Yandell
9 ,,	Ross, Arthur E	Telephone boy	10 per week	*Vice* W Forward.
10 ,,	Lovett, Cecil	Junior porter	4/2 per day	*Vice* H Cox
10 ,,	Alcock, Ernest	Gatekeeper	10 per week	*Vice* J Philson
13 ,,	Tretheway, John	Junior porter	2 6 per day	*Vice* H Owen
14 ,,	Burns Andrew	Porter	7/6 per day	Reinstated
17 ,,	Fennell, John	Telephone boy	10 per week	*Vice* G Thomas
17 ,,	M'Dana, Kate	Gatekeeper	7/ per week	*Vice* K Yandell

APPENDIX III—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		CHIEF TRAFFIC MANAGER'S BRANCH—*continued.*		
24 April	Bonamy, Henry	Telephone boy	10/- per week	*Vice* J. M'Caffery.
24 ,,	Maskell, Mrs. Alice	Gatekeeper	Free house	*Vice* Mrs Brown.
24 ,,	Shaw, John	Gatekeeper	15/- per week	*Vice* F. M'Grath.
24 ,,	Cooper, Thomas	Gatekeeper	15/ per week	*Vice* J Columb.
26 ,,	Sainsbury, Rose	Gatekeeper	7/ per week	*Vice* H Smith
27 ,,	Percy, Arthur	Telegraph probationer	2/6 per week	*Vice* R M'Farlane.
27 ,,	Ralph, Joseph	Gatekeeper	15/- per week	*Vice* W Scanlon.
29 ,,	Smith, Anne	Gatekeeper	7/ per week	*Vice* S Jamieson.
4 May	Melville, Donald	Junior porter	2/6 per day	*Vice* G Johnson.
4 ,,	Kelhear, Louisa	Gatekeeper	Free house	*Vice* E Burns
5 ,,	Lynch, Horace	Apprentice clerk	£30 per annum	*Vice* F Carpenter.
6 ,,	Walker, Frederick	Junior porter	2/6 per day	*Vice* H Nolan.
11 ,,	Rowe, Ira	Telegraph probationer	2/6 per week	*Vice* J Attwill.
15 ,,	Wallace, Margaret	Gatekeeper	7/- per week	*Vice* J Clarke
15 ,,	Campey, William	Telegraph probationer	2/6 per week	*Vice* W Shaw.
16 ,,	Moss, Wilfred	Junior porter	2/6 per day	*Vice* F Dent
18 ,,	Skinner, James	Telephone boy	10/ per week	*Vice* H Hunter.
18 ,,	Cairns, James	Gatekeeper	Free house	*Vice* A Cairns.
20 ,,	Corrigan, Burton	Porter	7/ per day	Reinstated
25 ,,	Toohey, Sarah	Gatekeeper	Free house	*Vice* M Lucas
29 ,,	Smith, William	Telephone boy	10/ per week	*Vice* A Davies
29 ,,	Hawes, Margaret	Gatekeeper	7/- per week	At Campbelltown.
29 ,,	Barclay, Anne	Platform attendant	5/- per week	At Sodwalls
29 ,,	Clatworthy, Mrs. Lynah	Platform attendant	5 - per week	At Portland Siding.
29 ,,	Guthrie, Mary	Gatekeeper	Free house	*Vice* E Harding
29 ,,	Watson, Edwin	Junior porter	3/4 per day	*Vice* J Magennis.
30 ,,	Caffery, Mrs. Alice	Gatekeeper	Free house	*Vice* E Messer.
1 June	Chapman, Annie	Platform attendant	£15 per annum	At Burradoo
4 ,,	Paull, Martin	Junior messenger	2 6 per day	*Vice* C Sheppard.
4 ,,	Hatherley, Joseph	Junior porter	2/6 per day	*Vice* J Miller
5 ,,	Lowe, Geo	Shunter	7/- per day	*Vice* S Stumbles.
10 ,,	Hartigan, Maurice	Telegraph probationer	2/6 per week	*Vice* J Dunne
10 ,,	Haslam, Frederick	Junior porter	2/6 per day	*Vice* J Taylor
12 ,,	Hooker, Sarah	Gatekeeper	7/ per week	*Vice* S M'Donald.
12 ,,	Ravaillion, Matte	Gatekeeper	7/- per week	*Vice* E Wilmott.
12 ,,	Keith, William	Junior porter	2/6 per day	*Vice* W Roohan
12 ,,	Sullivan, William	Telegraph probationer	2 6 per week	At Narrandera
15 ,,	Pringle, Ralph	Telegraph probationer	2/6 p r week	*Vice* B Haslam.
16 ,,	Connell, Bridget	Gatekeeper	Free house	*Vice* G Doyle
18 ,,	Leslie, William	Telegraph probationer	2/6 per week	*Vice* A Smith.
22 ,,	Smith, Sidney	Telegraph probationer	2/6 per week	*Vice* S Kerr
24 ,,	Milligan, Alexander	Gatekeeper	15/- per week	*Vice* J Dalzell
24 ,,	Mulheron, Denis	Junior porter	2/6 per day	*Vice* W. Sutcliffe.
		SIGNAL AND INTERLOCKING BRANCH.		
17 April	Rapp, James	Fitter's improver	4/ per day	
17 ,,	Dredge, William	Spike boy	3/ per day	
17 ,,	Martin, William J	Boy	2/3 per day	
17 ,,	Duckett, William	Boy	2/- per day	
17 ,,	Clinch, Keith	Boy	1/9 per day	
15 May	Pitkethley, John S	Boy	3 - per day	
15 ,,	Grimshaw, Henry	Apprentice	3/ per day	
15 ,,	Mitchell, Thomas J.	Boy	2 6 per day	Transferred from extra staff.
15 ,,	Harrington, Edward	Boy	2/6 per day	
12 June	Robson, Ernest	Fitter s improver	8/ per day	
12 ,,	Watt, Henry J O	Coop repairer	8/6 per day	
12 ,,	Boylen, William	Apprentice	5/- per day	
12 ,,	Kegg, Alexander	Apprentice	5/ per day	
12 ,,	Young, George	Furnace attendant	6/ per day	
12 ,,	Patterson, Edward	Lad, assistant to painter	5/ per day	
		ELECTRICAL ENGINEER'S BRANCH.		
17 April	Millar, Herbert	Telegraph messenger	2/ per day	
17 ,,	Maloney, Horace	Telegraph messenger	1/8 per day	
17 ,,	Green, Arthur	Telegraph messenger	1/8 per day	
17 ,,	Brown, Horace	Switcher	2/ per day	
17 ,,	Waring, Horace	Switcher	1/8 per day	
17 ,,	Stevens, Arthur	Telegraph messenger	1/8 per day	
17 ,,	Hancox, Samuel	Electrical cadet	1/9 per day	
17 ,,	Brown, Watkin	Electrical cadet	1/9 per day	
17 ,,	Bass, Richmond	Electrical cadet	1/9 per day	
17 ,,	Cliff, Richard	Electrical cadet	1/8 per day	
17 ,,	Lowrey, Ernest	Telegraph messenger	1/8 per day	
17 ,,	Morphy, John T	Probationer	2/6 per week	
17 ,,	Jones, Robert	Messenger	5/- per week	
17 ,,	Fraser, Sidney L.	Telegraph messenger	2/- per day	
17 ,,	Coote, William C.	Telegraph messenger	1/8 per day	Transferred from extra staff.
17 ,,	Morrison, William C.	Telegraph messenger	2/- per day	
29 May	Woollet, Marcus	Telegraph messenger	3/7 per day	
29 ,,	Barton, Walter	District Inspector	7/ per day	
29 ,,	Close, Alfred	Junior fitter	5/6 per day	
29 ,,	Tidswell, Frederick	Junior fitter	3/6 per day	
29 ,,	Neale, James C	Junior fitter	3/6 per day	
29 ,,	Charlton, William	Junior fitter	3 6 per day	
29 ,,	Wickham, Cecil	Junior fitter	4/6 per day	
29 ,,	Scott, John L	District Inspector	8/ per day	
29 ,,	Thaeter, Herman	District Inspector	9/ per day	
29 ,,	M'Guinness, John	Probationer	2/6 per week	
29 ,,	Higgs, Edward	Junior fitter	4/6 per day	
29 ,,	Luke, Henry J.	District Inspector	8/6 per day	
1 June	Coogan, Claude C.	Apprentice clerk	£30 per annum	
		COMPTROLLER OF STORES BRANCH.		
26 May	Clarke, William A.	Apprentice clerk	£30 per annum	*Vice* T. Sheridan.
		TRAMWAYS—LOCOMOTIVE BRANCH.		
27 Mar.	Williams, Herbert	Apprentice	10d per day	
27 ,,	Howarth, Hirah S.	Apprentice	2/- per day	
27 ,,	Ford, James	Apprentice	1/3 per day	
27 ,,	McRae, John	Apprentice	1/3 per day	
27 ,,	Hodge, Frederick	Apprentice	2/ per day	Transferred from extra staff.
27 ,,	Bruce, John L	Apprentice	1/3 per day	
27 ,,	Lewis Joseph	Apprentice	1/3 per day	
27 ,,	Boxall, Edward	Shop boy	3/ per day	
27 ,,	Sheridan, John B	Shop boy	2/6 per day	
27 ,,	Logan, Gavin	Shop boy	2/3 per day	

APPENDIX III—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		TRAMWAYS—LOCOMOTIVE BRANCH—*continued.*		
27 Mar.	Raymond, Frederick	Shop boy	2/6 per day	
27 ,,	Neaves, Sydney R.	Shop boy	3/- per day	
27 ,,	Londrigan, John J.	Shop boy	4/ per day	
27 ,,	Hubbard, Charles	Shop boy	4/- per day	
27 ,,	M'Intosh, Charles A.	Shop boy	3/- per day	
27 ,,	Edwards, Henry J.	Shop boy	2/6 per day	
27 ,,	Patterson, Henry E.	Shop boy	4/ per day	
27 ,,	Price, Edward	Labourer	6/6 per day	
27 ,,	Wallace, James	Boy labourer	4/- per day	
27 ,,	Davis, William J.	Boy labourer	3/- per day	
27 ,,	Boyd, James L.	Boy labourer	2 6 per day	Transferred from extra staff.
27 ,,	Strachan, John E.	Boy labourer	3/- per day	
27 ,,	Devery, James	Boy labourer	4/- per day	
27 ,,	Osmond, Henry S.	Boy labourer	3/ per day	
27 ,,	Macnab, Francis	Fitter	9/6 per day	
27 ,,	Bendall, William	Assistant oiler	5/- per day	
27 ,,	Clarke, George H	Assistant oiler	4/ per day	
27 ,,	Harrington, Daniel	Cleaner	5/6 per night	
27 ,,	Ragan, James	Cleaner	5/6 per night	
27 ,,	Moran, John J.	Cleaner	5/6 per night	
27 ,,	O'Keefe, Edward G.	Cleaner	5/6 per night	
1 April	O'Connor, William	Cleaner	4/6 per night	
1 ,,	Clapham, John B.	Cleaner	4/6 per night	
1 ,,	Crowe Thomas P.	Cleaner	3/9 per night	
1 ,,	Sparkes, Sydney H.	Cleaner	3/ per night	
1 ,,	Foster, George	Cleaner	3 9 per night	Extra service, Waverley and Bondi Line.
1 ,,	Tyler, William H	Cleaner	3 9 per night	
3 ,,	Parker, William H.	Cleaner	3/9 per night	
3 ,,	Newlands, Stephen	Cleaner	3/- per night	
3 ,,	Moyle, Arthur G	Cleaner	3/- per night	
3 ,,	Stanley, Edward P	Cleaner	4/6 per night	
3 ,,	Clark, John S	Apprentice	10d per day	*Vice* W. Timbrell.
10 ,,	Whatley, James	Fireman	7/6 per day	Transferred from extra staff.
10 ,,	Lee, Frederick H	Cleaner	6/ per night	
10 ,,	Juleff, James E	Fireman	7/6 per day	
22 ,,	Fletcher, John H	Boy labourer	2/3 per day	*Vice* A. Frappell.
24 ,,	Noon, Frederick W.	Cleaner	6/6 per night	
24 ,,	Turner, Charles A.	Fireman	7/6 per day	
24 ,,	Dodds, Fenwick	Fireman	7/6 per day	
24 ,,	Dawson, Edward C	Fireman	7/6 per day	
24 ,,	Hocking, Richard	Fireman	7/6 per day	
24 ,,	Bellerby, John W.	Fireman	7/6 per day	Transferred from extra staff.
24 ,,	Vaughan, Henry B	Shop boy	3/- per day	
8 May..	Evans, Richard M.	Cleaner	6/6 per night	
8 ,,	Toby, Richard C.	Fireman	7/6 per day	
8 ,,	Finch, William	Fireman	7/6 per day	
8 ,,	Walton, John H.	Fireman	7/6 per day	
8 ,,	Perkins, Walter	Fireman	7/6 per day	
10 ,,	Radford, Benjamin C.	Assistant oiler	2/6 per day	*Vice* W. O'Maley.
22 ,,	Cameron, Neil	Lamp trimmer	6 6 per day	*Vice* J. Millington.
5 June	Barker, Frank	Cleaner	6/- per night	
5 ,,	Forrest, Henry Wm.	Car builder	8/8 per day	
5 ,,	Austin, Percy G.	Cleaner	6/6 per night	
5 ,,	M'Cracken, Robert	Cleaner	6 6 per night	Transferred from extra staff.
5 ,,	M'Vie, Alfred E.	Fireman	7/6 per day	
19 ,,	Potter, Charles	Fireman	7/6 per day	
19 ,,	M'Lean, Alexander.	Cleaner	6/- per night	
19 ,,	Lee, Jeremiah J.	Cleaner	7/6 per night	
		TRAMWAYS—TRAFFIC BRANCH.		
10 April	Hagen, John P.	Gripman	7/6 per day	
10 ,,	Parker, William	Conductor	6/6 per day	
10 ,,	Byrne, Austin	Car-cleaner	6/- per day	
10 ,,	Byrnes, James	Gripman	7/6 per day	
24 ,,	Antoine, Joseph	Junior conductor	5/- per day	
24 ,,	Lewis, Frederick J.	Gripman	7/6 per day	
24 ,,	Berry, Philip	Gripman	7/6 per day	
24 ,,	Croke, James J.	Lamp-trimmer	5/- per day	
8 May	Hampson, Henry F.	Horse-driver	7/- per day	
8 ,,	Wight, Dougald	Junior conductor	6/- per day	Transferred from extra staff.
5 June	Gaudry, Roland	Junior conductor	7/- per day	
5 ,,	Smith, George	Horse driver	7/- per day	
5 ,,	Aitchison, David F.	Junior conductor	6/- per day	
5 ,,	Kinsella, Samuel	Junior conductor	6/6 per day	
5 ,,	Todhunter, John	Junior conductor	6/- per day	
5 ,,	Hayes, James	Car cleaner	6/- per day	
5 ,,	Jenkins, Edward	Point cleaner	7/ per day	
5 ,,	Swan, Ernest A.	Gripman	7/6 per day	
19 June.	Sheaves George	Junior conductor	6/ per day	
		TRAMWAYS—MAINTENANCE BRANCH.		
10 April	Flynn, Patrick	Labourer	7/6 per day	
10 ,,	Jones, Joseph	Labourer	7/- per day	
10 ,,	McNamara, Daniel	Labourer	7/6 per day	
10 ,,	Beazley, James	Labourer	7/6 per day	
19 ,,	M'Govern, Patrick	Labourer	7/6 per day	
19 ,,	Denihan, William	Labourer	7/ per day	
19 ,,	Curry, Patrick	Labourer	7/- per day	
19 ,,	Vaughan, William	Labourer	7/- per day	
19 ,,	Kenealy, Conel	Labourer	7/- per day	
19 ,,	Tidyman, Robert	labourer	7/- per day	Transferred from extra staff.
19 ,,	King, Thomas	Labourer	7/ per day	
19 ,,	Harford, John	Carpenter	10 - per day.	
19 ,,	Devlin, John	Messenger	5/- per day	
19 ,,	Brownie, George	Tool collector	2/6 per day	
24 ,,	Maher, Martin	Labourer	7/ per day	
24 ,,	Teege, Henry	Labourer	7/ per day	
24 ,,	Granville, Michael	Labourer	7/ per day	
24 ,,	Mahoney, Robert	Labourer	7/- per day	
8 May	Ostman, Mauritz	Fettler	7/ per day	

APPENDIX IV.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No. 44 of the Railway Act, showing the Removals of Employees from the 1st April to the 30th June, 1896.

Date.	Name.	Position.	Rate.	Remarks.
		CHIEF ACCOUNTANT'S BRANCH.		
28 April	Langley, Fergus N.	Clerk	£220 per annum	Deceased.
		TRAFFIC AUDITOR'S BRANCH.		
28 April	Fowler, Norman	Apprentice clerk	£80 per annum	Resigned.
31 May..	Byrnes, James B.	Clerk	£185 per annum	Retired.
		SOLICITOR'S BRANCH.		
16 May..	Armitage, Chas. C.	Messenger	10/- per week	Discharged.
		ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH		
13 April	Rowland, William	Labourer	7/- per day	Discharged.
14 ,,	Hewish, George	Labourer	7/6 per day	Discharged.
18 ,,	Ferry, Roger	Fettler	7/6 per day	Retired
4 May	Patterson, Henry	Fettler	7/6 per day	Discharged.
7 ,,	Hill, William	Fettler	7/6 per day	Discharged.
11 ,,	Wilson, James	Ganger	9/- per day	Discharged
12 ,,	Reynolds, Henry	Fettler	7/6 per day	Retired
22 ,,	Jenkins, John	Ganger	9/- per day	Discharged.
27 ,,	Harris, John	Ganger	9/- per day	Deceased
30 ,,	Howell, Frank	Carpenter	8/- per day	Discharged.
31 ,,	Barrack, George	Inspector	£300 per annum	Retired
31 ,,	Marshall, Alexander	Sub Inspector	£230 per annum	Retired
27 June	Crawford, John	Carpenter	8/- per day	Deceased.
		CHIEF MECHANICAL ENGINEER'S BRANCH		
28 Mar	Tyson, Richard	Shop boy	5/- day	Resigned.
8 April	Hume, Edward	Fitter	10 - per day	Resigned
9 ,,	Chapman, Alfred	Fireman	10/- per day	Discharged.
20 ,,	Watts, William	Fitter	11/- per day	Deceased
25 ,,	Fisher, Peter	Shop boy	2/3 per day	Resigned.
27 ,,	Newton, Sydney	Labourer	7/6 per day	Retired.
28 ,,	Sutton, Willoughby	Labourer	7/- per day	Resigned.
7 May	Smith, William	Labourer	7/6 per day	Resigned
19 ,,	Thomson, Alfred	Fireman	10/- per day	Discharged.
3 June	M'Inerney, Thomas	Driller	8/ per day	Deceased
11 ,,	Wickham, Robert	Driver	15/- per day	Deceased
12 ,,	Lee, John E	Head shunter	8/- per day	Resigned
13 ,,	Taylor, William	Labourer	7/ per day	Left the Service.
14 ,,	Menzies, John	Fitter	11/8 per day	Retired
19 ,,	M'Donald, Alexander	Wagon builder	10/- per day	Resigned.
27 ,,	Gow, James F.	Labourer	7/6 per day	Deceased.
		CHIEF TRAFFIC MANAGER'S BRANCH.		
2 April	Ellis, Annie	Gatekeeper	7/- per week	Deceased
8 ,,	Johnston, Susan	Gatekeeper	Free house	Discharged.
8 ,,	Kennedy, Robert J.	Night officer	£130 per annum	Resigned
8 ,,	Harding, Emma	Gatekeeper	Free house	Resigned
9 ,,	Yandell, Mary	Gatekeeper	7/ per week	Deceased.
9 ,,	Falkiner, Benjamin	Porter	7/- per day	Deceased
11 ,,	Hunter, Henry Thomas	Porter	6/- per day	Discharged.
11 ,,	Shaw, William	Junior porter	3/4 per day	Resigned.
13 ,,	Maguire, Catherine	Gatekeeper and care taker	7/ per week and free house	Discharged.
16 ,,	Yandell, Kate	Gatekeeper	7/- per week	Resigned.
17 ,,	Kennedy, Arthur	Night officer	£130 per annum	Resigned.
18 ,,	Nolan, Harold	Junior clerk	£75 per annum	Discharged.
21 ,,	Smith, Arthur	Signalman	7/6 per day	Deceased.
23 ,,	Smith, Harriet	Gatekeeper	7/- per week	Resigned.
24 ,,	Brown, Mrs.	Gatekeeper	Free house	Resigned.
25 ,,	Foody, James	Stationmaster	£150 per annum and house.	Discharged.
26 ,,	Jamieson, Selina	Gatekeeper	7/- per week	Resigned.
27 ,,	Johnston, James	Porter	7/- per day	Deceased
28 ,,	Halloway, Charles	Junior clerk	£90 per annum	Resigned.
28 ,,	Taylor, Mary	Gatekeeper	7/ per week	Deceased.
30 ,,	Dean, James	Guard	10/ per day	Retired
4 May.	Thew, John C.	Porter	8/- per day	Deceased.
4 ,,	Burns, Ellen	Gatekeeper	Free house	Resigned.
4 ,,	Attwill, John	Operator	£90 per annum	Resigned.
4 ,,	Davies, Reginald C.	Junior clerk	£110 per annum	Resigned.
4 ,,	Carpenter, Frederick	Apprentice clerk	£30 per annum	Discharged.
6 ,,	M'Farlane, Robert	Junior clerk	£110 per annum	Resigned.
6 ,,	Haslam, Benjamin	Stationmaster	£240 per annum and house.	Deceased.
7 ,,	Messer, Evelyn	Gatekeeper	Free house	Resigned.
12 ,,	Brown, John	Porter	7/- per day	Discharged.
12 ,,	Healey, William	Porter-in charge	40/- per week and house.	Discharged.
13 ,,	Cooper, James	Shunter	8/6 per day	Discharged.
13 ,,	Parsons, George	Stationmaster	£225 per annum and house	Retired.
14 ,,	Clarke, Jane	Gatekeeper	7/- per week	Resigned.
15 ,,	Cairns, Adelaide	Gatekeeper	Free house	Resigned.
16 ,,	Theobald, Joseph	Night officer	£130 per annum	Discharged.
16 ,,	Carter, James	Porter	7/6 per day	Resigned.
21 ,,	Sadler, William	Signalman	10/ per day	Retired.
21 ,,	Duff, Alexander	District Superintendent	£475 per annum and house.	Deceased.
21 ,,	Magennis, Joseph J.	Junior porter	5/- per day	Resigned.
21 ,,	Anderson, Robert	Stationmaster	£216 per annum and house.	Retired.
25 ,,	Lucas, Margaret	Gatekeeper	Free house	Resigned.
26 ,,	Nash, Thomas	Porter	7/ per day	Deceased.
27 ,,	Hynes, John	Junior clerk	£90 per annum	Resigned.
31 ,,	Miller, John	Apprentice clerk	£70 per annum	Resigned.
31 ,,	Kerr, Samuel	Junior clerk	£90 per annum	Resigned

APPENDIX IV—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		Chief Traffic Manager's Branch—*continued.*		
1 June	Davies, Arthur	Junior porter	5 - per day	Resigned.
4 ,,	Dunne, James	Telegraph probationer	2/6 per week	Discharged.
11 ,,	M'Donald, Susan	Gatekeeper	7/- per week	Resigned.
11 ,,	Wilmott, Elizabeth	Gatekeeper	7/- per week	Resigned.
16 ,,	Whitten, William	Night officer	£130 per annum	Deceased.
16 ,,	Doyle, Grace	Gatekeeper	Free house	Resigned.
18 ,,	Costello, William	Junior porter	5 - per day	Resigned.
19 ,,	Lawes, Charles	Night officer	£180 per annum	Resigned.
22 ,,	Sheppard, Charles	Operator	£80 per annum	Resigned.
25 ,,	Bray, Elizabeth	Gatekeeper	Free house	Resigned.
27 ,,	Thomas, Mrs. J. S.	Gatekeeper	Free house	Resigned.
27 ,,	Roohan, William	Gatekeeper	30/- per week	Retired.
29 ,,	Crease, Alexander	Clerk	£170 per annum	Resigned.
		Signal and Interlocking Branch.		
13 June	Brown, Peter	Signal fitter	8/6 per day	Resigned.
		Electrical Engineer's Branch.		
30 April	Gray, David	Junior operator	£90 per annum	Resigned.
6 June	Clements, George F.	Electrical assistant	£225 per annum	Deceased.
		Tramways—Locomotive Branch		
31 Mar.	O'Maley, William	Fireman	8/- per day	Deceased.
10 May.	Millington, John	Lamptrimmer	7/- per day	Deceased.
		Tramways—Traffic Branch.		
4 April	Moran, William	Senior conductor	9/- per day	Resigned.
9 ,,	Head, Edward J.	Senior conductor	9/- per day	Resigned
19 May.	Healey, Maurice	Senior conductor	9/- per day	Discharged.
29 ,,	Colls, Edward	Conductor	7/6 per day	Discharged.
6 June	Stone, George	Senior conductor	9/- per day	Deceased.
15 ,,	Harris, William J.	Senior conductor	9/- per day	Discharged.
15 ,,	Stack, Patrick	Senior conductor	9/- per day	Discharged.
15 ,,	Stuart, Richard	Conductor	6 6 per day	Discharged.
26 ,,	Schwerdtmann, Charles	Senior conductor	9/- per day	Deceased.
30 ,,	Smith, Fredk. G. D.	Clerk	£220 per annum	Dispensed with.
		Tramways—Maintenance Branch.		
22 April	Page, Watkin	Labourer	7/6 per day	Discharged.
20 June	Kiernan, James	Labourer	7/6 per day	Discharged.

Sydney: Charles Potter, Government Printer.—1896.

[9*d.*]

1896.

LEGISLATIVE ASSEMBLY,
NEW SOUTH WALES.

RAILWAYS AND TRAMWAYS.

(REPORT OF RAILWAY COMMISSIONERS, QUARTER ENDING SEPTEMBER, 1896.)

Presented to Parliament, pursuant to Act 51 Vic. No. 35, sec. 44.

Printed under No. 25 Report from Printing Committee, 5 November, 1896.

Offices of the Railway Commissioners of New South Wales,
29th October, 1896.

TO THE HONORABLE THE MINISTER OF RAILWAYS,—

Sir,

In accordance with the provisions of the 44th clause of the Railway Act of 1888, 51 Vic. No. 35, we have the honor to submit, for the information of Parliament, our Report, for the quarter ending 30th September, 1896, upon the subjects specified, viz. :—

I.—STATE OF THE TRAFFIC.

RAILWAYS.	Quarter ending 30th Sept., 1895.	Quarter ending 30th Sept., 1896.
Miles open	2,531¼	2,531¼
Revenue — 1895. 1896. Passenger £224,374 £243,044 Merchandise £480,651 £494,141	£705,025	£737,185
Expenditure	£393,679	£405,756
Train miles run	1,938,908	1,969,585
Earnings per train mile	7/3¼	7/5¾
Expenditure per train mile	4/0¾	4/1½
Percentage—Expenditure to earnings	55·84	55·04
Number of passengers	5,027,326	5,392,491
Tonnage of goods traffic	962,513	1,113,950
Tonnage of live stock traffic	45,427	42,830

TRAMWAYS.	Quarter ending 30th Sept., 1895.	Quarter ending 30th Sept., 1896.
Miles open	61	61
Revenue	66,220	70,606
Expenditure	56,578	58,833
Tram miles run	659,835	745,170
Earnings per tram mile	2/0	1/10¾
Expenditure per tram mile	1/8½	1/7
Percentage—Expenditure to earnings	85·44	83·32
Number of fares collected	15,517,996	16,653,775

*441—A

[565 copies—Approximate Cost of Printing (labour and materials), £21 8s. 9d.]

RAILWAYS.

II.—Condition of the Lines.

A report as to the condition of the lines will be found as an Appendix, page 4.

III.—Special Rates.

A statement of the special rates, and the reasons for making the same, will be found attached. [Appendix page 4.]

IV.—Staff.

These returns are given as an Appendix, pages 5 to 10.

General Remarks.

The revenue for the quarter shows an increase of £32,160. It is very satisfactory to be able to report that this increase was brought about by an improvement in nearly all classes of traffic.

The First-class Passenger traffic increased to the extent of £7,764; the Second-class, £8,633; and the Miscellaneous traffic in the Coaching Department, £2,273.

In the Goods Department a net gain of £13,490 was obtained, General Merchandise showing an increase of £17,865; Coal and Coke, £6,233; Miscellaneous traffic, £1,309; aggregating £25,407; a decrease of £11,917, however, occurred in connection with the Wool, Live Stock, and Mineral traffic, other than Coal and Coke.

For the increased revenue earned in the Passenger Department 365,165 additional passenger journeys were made.

In regard to the Goods Department traffic, 104,549 additional tons of coal were carried, and 48,886 additional tons of general merchandise.

The expenditure shows an increase of £12,077, and the Working Expenses for the quarter represent 55·04 per cent. of the gross earnings as against 55·84 per cent. in the corresponding quarter of last year.

Liberal provision was made during the quarter for renewals and replacements both of Rolling Stock and Permanent-way.

CONDITION OF THE LINES AND ACCOMMODATION FOR THE TRAFFIC.

The lines are in excellent order. Relaying and resleepering is going on where required. The improvement of grades and curves is proceeding, and much advantage is being obtained in connection with the working of the present heavy traffic from the alterations already completed.

TRAMWAYS.

The revenue shows an increase of £4,386, and the working expenses an increase of £2,254. The percentage the working expenses bear to the total traffic is 83·32 as against 85·44 per cent. for the corresponding quarter of 1895.

We have the honor to be,

Sir,

Your most obedient servants,

E. M. G. EDDY,
Chief Commissioner.

CHARLES OLIVER,
Commissioner.

W. M. FEHON,
Commissioner.

APPENDIX I.

Report on the Condition of Ways and Works for the quarter ending 30th September, 1896.

Sir, Office of Engineer-in-Chief for Existing Lines, 2 October, 1896.

I have to report for the information of the Commissioners that the permanent-way and works have been satisfactorily maintained during the past quarter.

Relaying, resleepering, and reballasting operations have been steadily carried on.

The curve improvements near Faulconbridge, Woodford, Hazelbrook, and Lawson have been completed, thereby cutting out all sharp curves east of Katoomba, and considerable progress made with those in the vicinity of Katoomba and Blackheath.

The deviation to cut out the steep grade between Locksley and Brewongle has been completed, and the similar work between Geurie and Dubbo is nearly finished. A contract to improve the grade near Dargan's Creek has been let, and is making satisfactory progress.

On the Southern Line the work of cutting out the steep grade between Moss Vale and Exeter is being carried out departmentally.

I have, &c.,
THOMAS R. FIRTH.

The Secretary to the Railway Commissioners.

APPENDIX II.

NEW SOUTH WALES GOVERNMENT RAILWAYS.

STATEMENT, in accordance with clause No. 44 of the Railway Act, showing the Special Rates which have been made, and the reasons for making such rates, quarter ending 30th September, 1896.

Article	Rate.	Reason for rate.
Luggage	Luggage allowance to passengers holding 1st or 2nd class special cheap excursion tickets not to exceed 28 lb.	Special circumstances.
Parcels	Fruit, fish, and excess luggage between Sydney, Melbourne, Adelaide, and Broken Hill to be charged for at the bulk weight instead of for each parcel separately.	Additional facilities.
Fares	Fares from Murrumburrah to Harden: Single—1st, 4d.; 2nd, 3d. Return—1st, 6d.; 2nd, 4d.	Encourage traffic.
Cream and milk	Koorawatha to Young, to be charged single package rates, up transit	To secure traffic.
Junction charges	Goods carried between Wodonga and Albury, intended for the Albury Exhibition, free.	Special concession.
Wool (greasy)	Beabula to Hay (to be scoured), 2s. 8d. per ton	Special rate.
Wool	Wagga to Albury, special clips not less than 1,000 bales, 27s. 6d. per ton	To secure traffic.
Salt	Sydney to Culcairn, in 50 ton lots, for pastoral purposes, 38s. 6d. per ton	To secure traffic.

APPENDIX III.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No. 44 of the Railway Act, showing the Appointments of Employees from the 1st July to the 30th September, 1896.

Date.	Name.	Position.	Rate.	Remarks.
		CHIEF ACCOUNTANT'S BRANCH.		
1896. 21 Sept.	Cromack, Cecil H.	Apprentice clerk	£30 per annum	*Vice* S Solomons.
		TRAFFIC AUDITOR'S BRANCH.		
1 July	Tucker, Charles B	Apprentice clerk	£40 per annum	Transferred from extra staff.
1 ,,	Fisher, Edward W.	Apprentice clerk	£40 per annum	
2 Sept.	Heavey, Herbert J.	Apprentice clerk	£30 per annum	*Vice* G. Hatton.
		ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.		
1 July	Pont, William A.	Apprentice clerk	£70 per annum	*Vice* A. Davies
3 ,,	Feenan, Peter	Labourer	7/- per day	*Vice* T. Kealey.
21 ,,	Wilson, James	Fettler	7/6 per day	*Vice* J. Suthons.
31 ,,	McFadden, John	Fettler	7/6 per day	*Vice* J. Absalom.
7 Aug.	Lankshear, Charles	Office-boy	2 - per day	*Vice* P. Woods.
14 ,,	Gavenlock, Charles J.	Labourer	7/- per day	*Vice* M Keevers.
20 ,,	Hall, John	Labourer	6 6 per day	*Vice* J. Wilson.
28 ,,	Brough, John	Fettler	7/- per day	Transferred from extra staff.
4 Sept.	Wood, Joseph	Fettler	7/6 per day	*Vice* J. Ferguson.
5 ,,	McKervey, Patrick	Fettler	7/6 per day	*Vice* G Burgess.
14 ,,	Ellis, Walter	Telephone boy	3/- per day	*Vice* H. Bonamy.
18 ,,	Brennan, Joseph	Fettler	7/6 per day	*Vice* W. Reed.
21 ,,	Purdon, John	Fettler	7/6 per day	*Vice* E. Holloway.
21 ,,	Miller, Charles	Fettler	7/6 per day	*Vice* C. Paton.
22 ,,	Perkins, John	Fettler	7/6 per day	*Vice* E. Sweeney.
		CHIEF MECHANICAL ENGINEER'S BRANCH.		
6 July	Brown, Samuel C.	Apprentice	10d. per day	*Vice* J. Menzies.
8 ,,	Ireland, Rupert	Fuelman	6/6 per day	*Vice* W. Campbell.
10 ,,	Hempel, Charles	Storeman	7/- per day	
10 ,,	Fraser, Henry J.	Blacksmith	10/ per day	
10 ,,	Rose, Hugh	Car-builder	10/- per day	
10 ,,	Wilkins, Henry J.	Car-builder	10/- per day	
10 ,,	O'Connell, John	Car-builder	8/- per day	
10 ,,	Fisher, Sidney	Labourer	7/- per day	
10 ,,	Russell, William T.	Labourer	8/- per day	
10 ,,	Alexander, Albert	Labourer	7/- per day	
10 ,,	Murphy, James	Labourer	7/- per day	
10 ,,	Skeehan, Daniel	Labourer	7/6 per day	
10 ,,	Steel, Montague	Labourer	7/- per day	
10 ,,	Lancaster, William	Labourer	7/- per day	
10 ,,	McAlpine, Robert	Driller	7/- per day	
10 ,,	Mood, John C.	Painter	10/- per day	
10 ,,	Smith, William A. P.	Painter	8/- per day	
10 ,,	Kirwin, John	Painter's assistant	7/6 per day	
10 ,,	Wells, William	Painter's assistant	6/- per day	
10 ,,	McConville, Hugh	Painter's assistant	6/- per day	
10 ,,	Pinkstone, Claude	Painter's assistant	6/- per day	
10 ,,	Hawes, Charles R.	Painter's assistant	6/- per day	
10 ,,	Walker, Arthur	Painter's assistant	6/- per day	
10 ,,	Gibbs, George H.	Painter's assistant	6/- per day	
10 ,,	Conneff, Timothy	Painter's assistant	6/- per day	
10 ,,	Farrell, John	Labourer	7/ per day	
10 ,,	Morris, John	Examiner	7/6 per day	
10 ,,	Reid, John	Fuelman	7/- per day	
10 ,,	Conway, Christopher	Fuelman	7/- per day	
10 ,,	Hollow, John	Gasmaker	8/ per day	
10 ,,	Hammond, Arthur	Labourer	7/- per day	
10 ,,	Barrett, Richard	Striker	5/6 per day	
10 ,,	Selly, John	Labourer	7/- per day	
10 ,,	Austin, Richard	Labourer	7/ per day	
10 ,,	Kavanagh, James	Blue printer	6/- per day	
10 ,,	Tyrrell, Henry	Fuelman	7/ per day	
17 ,,	Reid, Mathew	Turner	10/per day	
17 ,,	Rodgers, John	Fitter	11/ per day	
17 ,,	Lusk, Arthur	Fitter	10/- per day	
17 ,,	Smith, Thomas G.	Boilermaker	10/- per day	
17 ,,	Sutcliffe, Enoch	Striker	7/- per day	Transferred from Extra Staff
17 ,,	Wilson, John	Fitter	10/- per day	
17 ,,	Healey, Patrick	Labourer	7/- per day	
17 ,,	Rome, James	Fitter	10/ per day	
17 ,,	Lunney, Edward	Fuelman	7/- per day	
17 ,,	Paterson, Duncan	Fitter	10/- per day	
17 ,,	Trevallion, George	Fuelman	7/- per day	
17 ,,	King, Edward	Store-boy	4/- per day	
17 ,,	Richardson, Ernest	Office-boy	5/o per day	
24 ,,	Anderson, Archibald	Apprentice	5/- per day	
24 ,,	Kavanagh, John	Fitter	10/- per day	
24 ,,	Kerr, Edward	Crane attendant	5/ per day	
24 ,,	Daniels, John	Shop-boy	5/- per day	
24 ,,	Jones, Alfred	Moulder	8/- per day	
24 ,,	Black, William	Labourer	7/- per day	
24 ,,	Lewis, John	Apprentice	5/- per day	
24 ,,	Stride, Sidney	Apprentice	5/- per day	
24 ,,	Smith, Thomas F.	Apprentice	5/- per day	
24 ,,	Bryant, Leslie	Apprentice	5/- per day	
24 ,,	M'Coy, Charles	Apprentice	5/- per day	
24 ,,	Key, Percy	Apprentice	5/- per day	
24 ,,	Kelso, Ernest	Apprentice	5 - per day	
24 ,,	Horsfield, William	Apprentice	5/ per day	
24 ,,	Porteous, Phillip	Apprentice	5 - per day	
24 ,,	Haken, George	Apprentice	5/- per day	
24 ,,	Hill, Joshua	Apprentice	5/ per day	
24 ,,	Paynter, Henry	Apprentice	5/- per day	
24 ,,	Goodfellow, James	Apprentice	5, per day	
24 ,,	Saxby, William	Apprentice	5/ per day	
24 ,,	Carruthers, Henry	Apprentice	5 - per day	
24 ,,	Monk, Charles	Apprentice	5/- per day	
24 ,,	Evans, George	Apprentice	5/- per day	
24 ,,	Raper, John	Apprentice	5 - per day	
24 ,,	Hurley, Patrick	Apprentice	5/- per day	
24 ,,	Merritt, Walter	Apprentice	5 - per day	
24 ,,	Davison, William	Apprentice	5,- per day	
24 ,,	Hall, Richard	Fitter	10 - per day	
24 ,,	Gill, Richard	Labourer	7/ per day	

APPENDIX III—*continued.*

Date	Name	Position	Rate	Remarks
1896		CHIEF MECHANICAL ENGINEER'S BRANCH—*continued*		
24 July	Middleton, Charles	Office boy	5 6 per day	
24 ,,	Smith, Nicholas	Labourer	7/ per day	
24 ,,	Phillips, Geo E	Boilermaker	10 per day	
24 ,,	Howarth, Frederick	Fitter's improver	7/ per day	
24 ,,	Pike, Charles	Cleaner	7/ per day	
24 ,,	Robinson, Henry W	Cleaner	7/ per day	
24 ,,	Dixon, Walter	Cleaner	5/6 per day	Transferred from extra staff
24 ,,	Pettit, James	Boilermaker	10/ per day	
24 ,,	Little, Albert	Labourer	7/ per day	
24 ,,	Sharp, William	Machinist	8/ per day	
24 ,,	Reidy, John	Cleaner	7/ per day	
24 ,,	Watson, Alexander	Office boy	5/ per day	
24 ,,	Poll John	Fuelman	7/ per day	
25 ,,	Thomson, Alfred	Fuelman	7 per day	Reinstated, *vice* R. Wickham
27 ,,	Hill James	Apprentice	10d per day	At Eveleigh
28 ,,	Crowe, Patrick J	Apprentice	10d per day	
31 ,,	Wilson, Henry	Fitter	10/ per day	Transferred from extra staff
31 ,,	Boa, Andrew	Boilermaker	9 4 per day	
31 ,,	Quick, William	Car builder	10/ per day	
6 Aug	Edwards, William H	Hammer boy	2/ per day	*Vice* H Drewe
11 ,,	Clissold, Lawrence G	Apprentice	10d per day	*Vice* W Kemp
12 ,,	Vaughan, Horace	Apprentice	10d per day	At Eveleigh,
18 ,,	Swinfield, George W	Apprentice	10d per day	*Vice* T Robson
21 ,,	Montgomery, Robert	Examiner	7/6 per day	
21 ,,	Howearth, Henry	Painter's assistant	7/ per day	
21 ,,	Smith, Stephen	Oiler	7/6 per day	
21 ,,	Platt, William	Labourer	8/ per day	
21 ,,	Inglis, William J	Labourer	7/ per day	
21 ,,	Buchanan, George	Car builder	10/ per day	
21 ,,	Warren, James	Striker	7/ per day	
21 ,,	Bonner, Charles	Labourer	7/ per day	
21 ,,	Haverd, James	Striker	7/ per day	Transferred from extra staff
21 ,,	Pearce, James A	Boilermaker's assistant	7 6 per day	
21 ,,	Turner, John	Fitter	10/ per day	
21 ,,	Whelan, William	Messenger	3/6 per day	
21 ,,	Munro, William	Fuelman	7/ per day	
21 ,,	Goodwin, John	Fuelman	7/ per day	
21 ,,	Brady, Thomas	Boilermaker	9/4 per day	
21 ,,	Allen, Christopher	Boilermaker	9/4 per day	
24 ,,	Plunkett, John	Cleaner	6/ per day	Re employed
25 ,,	O'Grady, Stephen J	Shop boy	2/6 per day	*Vice* F Bowman
25 ,,	Hunter, James	Cleaner	5/ per day	
25 ,,	Stevenson, Arthur	Cleaner	6/ per day	Re employed
26 ,,	Grant, William	Cleaner	6/ per day	
27 ,,	Saunders, Thomas	Shop boy	2/6 per day	*Vice* J Gow
27 ,,	Mason, Robert	Shop boy	1/9 per day	*Vice* J Smith
27 ,,	Amos, William	Cleaner	6/ per day	
27 ,,	Jones Evan J	Cleaner	6/ per day	
27 ,,	McDonald, Albert	Cleaner	6/ per day	
28 ,,	Cavanagh, Richard	Cleaner	5/ per day	
29 ,,	Gallagher, James	Cleaner	6/ per day	
31 ,,	Rinkin, Henry	Cleaner	5/ per day	
31 ,,	Harper, John	Cleaner	5/6 per day	
31 ,,	Thomas, Joseph	Cleaner	6/ per day	
1 Sept	Worrell, Frederick	Cleaner	5/ per day	Re employed
1 ,,	Worrell, George P	Cleaner	5/6 per day	
1 ,,	Vinnicombe, Charles	Cleaner	6/ per day	
1 ,,	Quinn, Charles	Cleaner	5/6 per day	
1 ,,	Wallace, Henry	Cleaner	6/ per day	
1 ,,	Smith, Henry	Cleaner	6/ per day	
1 ,,	Stevenson, Maitland	Cleaner	6/ per day	
1 ,,	Saunders, George	Cleaner	5/6 per day	
1 ,,	Darlington, Alfred	Cleaner	5/6 per day	
4 ,,	Cummins, James	Shop boy	2/6 per day	At Eveleigh
4 ,,	Quinn, Thomas	Cleaner	5/6 per day	
4 ,,	Kelly, John	Cleaner	5/ per day	
4 ,,	Kennedy, James	Cleaner	5/ per day	
4 ,,	Gale Thomas	Cleaner	5/ per day	Re employed
4 ,,	Penfold, Walter	Cleaner	5/6 per day	
4 ,,	Greatrex, William	Cleaner	5/6 per day	
6 ,,	Horner, Arthur	Cleaner	5/6 per day	
7 ,,	Lane Stephen	Hammer boy	2/3 per day	At Eveleigh
7 ,,	Coffin Allen	Cleaner	5/6 per day	
8 ,,	Walton, William	Cleaner	5/ per day	
8 ,,	Harris, Thomas	Cleaner	5/6 per day	Re employed.
8 ,,	Webb, Albert V	Cleaner	5/6 per day	
10 ,,	Kellerman, William	Cleaner	5/ per day	
10 ,,	Reidy, Cornelius	Cleaner	5/ per day	Re employed, *vice* W Peat
10 ,,	Hayes, Reuben	Striker	6/8 per day	Re employed, *vice* R Broadfoot
11 ,,	Yates, Samuel	Cleaner	3/3 per day	At Bathurst
11 ,,	Hanney, Joseph C	Cleaner	7/ per day	
11 ,,	Critchley, Joseph	Boilermaker's assistant	7/ per day	Transferred from extra staff
11 ,,	Wilson, William	Boilermaker's assistant	7/ per day	
13 ,,	Burke, Michael	Cleaner	6/ per day	
14 ,,	Green, Robert	Cleaner	5/ per day	Re employed
14 ,,	McElhinney, Thomas	Cleaner	5/ per day	
14 ,,	McNamara, William	Shop boy	2/3 per day	At Eveleigh
14 ,,	Glanville James R	Springmaker	10/2 per day	
14 ,,	Nugent Alfred E	Labourer	7/ per day	
14 ,,	Normoyle James	Labourer	7/ per day	Transferred from extra staff
14 ,,	Croker, Thomas	Striker	7/ per day	
15 ,,	Playford, William	Cleaner	5/ per day	
18 ,,	Andrews, Alfred	Cleaner	5/ per day	
18 ,,	Mitchell, Alexander	Cleaner	5/6 per day	
19 ,,	McFadyen, William	Cleaner	5/ per day	
21 ,,	Flint George W	Cleaner	5/6 per day	
21 ,,	Carruthers, Alexander	Cleaner	5/ per day	Re employed
21 ,,	Brinckley Henry	Cleaner	5/6 per day	
21 ,,	Tickle, Joseph	Cleaner	5/6 per day	
22 ,,	Greene Arthur	Cleaner	5/ per day	
23 ,,	McCredie John	Cleaner	5/ per day	
23 ,,	Egan Patrick	Cleaner	5/6 per day	
23 ,,	Lidden Henry	Cleaner	5/ per day	Re employed, *vice* A Knox
23 ,,	Roach, George R	Shop boy	1/9 per day	*Vice* G Fell
23 ,,	Nimmo Matthew C	Shop boy	2/6 per day	
23 ,,	Percy James R	Apprentice	10d per day	At Newcastle
23 ,,	Holt Hugh M	Apprentice	10d per day	
24 ,,	Fellows, Joshua	Shop boy	3/ per day	
24 ,,	Higgins, Henry	Labourer	6/6 per day	Re employed, *vice* E Westwood
24 ,,	Walker, Horace	Fuelman	7/ per day	Transferred from extra staff
25 ,,	Hill George R	Cleaner	5 per day	Re employed
25 ,,	Mcinmey, James	Cleaner	5/ per day	
25 ,,	Smith, George	Call boy	2/6 per day	*Vice* W Walker
26 ,,	Chapman, Frederick	Cleaner	5/ per day	Re employed
28 ,,	Smith, Andrew J	Cleaner	5/ per day	
29 ,,	Russell, Horatio	Apprentice	10d per day	*Vice* A White

APPENDIX III—*continued.*

Date.	Name.	Position.	Rate	Remarks.
1896.		CHIEF TRAFFIC MANAGER'S BRANCH.		
10 June	O'Sullivan, Fanny	Barrack attendant	7/6 per week	At Nevertire.
19 ,,	Reynolds, Catherine	Gatekeeper	7/- per week	*Vice* Mrs. Taylor.
26 ,,	Taylor, Alfred	Junior porter	2/6 per day	Transferred from Extra Staff
26 ,,	Jamieson, Mary	Gatekeeper	Free house	*Vice* E. Bray.
26 ,,	Wood, Emily	Gatekeeper	Free house	*Vice* Mrs. Herring.
26 ,,	Allen, Ethel	Gatekeeper	7/6 per week	*Vice* J. Allen.
26 ,,	Price, Kate	Gatekeeper	7/- per week	At Stuart Town.
27 ,,	Colley, Janet	Gatekeeper	Free house	*Vice* Mrs. Thomas.
2 July	Rowland, Cecilia	Gatekeeper	Free house	*Vice* E. Rowland.
3 ,,	Wauhop, Hugh	Telephone boy	10/- per week	*Vice* H. Bonamy.
4 ,,	Wright, Charles	Junior porter	2/6 per day	*Vice* T. Ashe.
6 ,,	Nicolle, William	Telegraph probationer	2/6 per week	*Vice* T. Winder.
8 ,,	Hextall, Albert	Apprentice clerk	£30 per annum	*Vice* A. Crease.
9 ,,	Stumbles, Arthur	Junior porter	2/6 per day	*Vice* Mrs Richard.
10 ,,	Gamfield, Emily	Gatekeeper	7/- per week	*Vice* M. Gamfield.
14 ,,	Hayes, Richard	Telephone boy	10/- per week.	*Vice* J. Robinson.
17 ,,	Hewston, Mrs. Ellen	Gatekeeper	7/- per week and house.	*Vice* Mrs. Davis.
20 ,,	Gardner, Emma	Office assistant	10/ per week	At Mandurama.
21 ,,	Cox, Elizabeth	Gatekeeper	15/- per week and house	*Vice* K. Hutson.
24 ,,	Smith, John	Probationer	10/- per week.	Transferred from extra staff.
27 ,,	Cromack, Alfred	Junior porter	4/2 per day	At Stuart Town.
27 ,,	Clifton, Ernest	Telegraph probationer	2/6 per week	*Vice* C. Lawes.
28 ,,	Allmark, Henry	Junior porter	2/6 per day	*Vice* J. Webster.
29 ,,	Forrest, James	Telegraph probationer	2/6 per week	*Vice* D. O'Neile, to Cockle Creek.
30 ,,	Gotley, George	Telephone boy	10/- per week	*Vice* G. Davies.
30 ,,	Barclay, William	Junior porter	2/6 per day	*Vice* W. Pringle.
3 Aug.	Fagan, Michael	Junior porter	3/4 per day	Transferred from extra staff.
6 ,,	Brown, John	Porter	7/- per day	*Vice* F. Read.
6 ,,	Pope, George Martin	Gatekeeper	10/- per week	*Vice* H. Parker.
11 ,,	James, Charles	Junior porter	2/6 per day	*Vice* W. Hives.
12 ,,	Brown, Frederick	Gatekeeper	15/- per week	*Vice* W. Whitten.
12 ,,	West, Sydney	Junior porter	2/6 per day	*Vice* E. Jones.
12 ,,	Jones, Frederick	Junior porter	2/6 per day	*Vice* W. Davies.
14 ,,	Brown, William	Gatekeeper	15/- per week.	Transferred from extra staff
17 ,,	McEwen, Nestor	Junior porter	2/6 per day	*Vice* J. Anderson.
17 ,,	Pringle, William	Junior porter	2/6 per day	At Dapto.
18 ,,	Spicer Tom Sidney	Telegraph probationer	2/6 per week	*Vice* R. Pringle.
18 ,,	McJannett, William	Telegraph probationer	2/6 per week	*Vice* W Butler.
19 ,,	Hankins, Herbert	Junior porter	2/6 per day	*Vice* C. Thomson.
26 ,,	Booth, James	Junior porter	2/6 per day	*Vice* M. Flannery.
26 ,,	Gale, Reginald	Apprentice clerk	£30 per annum	At Darling Harbour.
26 ,,	Wilkinson, William	Apprentice clerk	£30 per annum	At Darling Harbour.
26 ,,	Frawley, William	Apprentice clerk	£30 per annum	At Darling Harbour.
27 ,,	Primrose, Carlton	Junior porter	2/6 per day	*Vice* T. Boswell.
27 ,,	Graham, Walter	Junior porter	2/6 per day	*Vice* J. Robinson.
29 ,,	Elliott, Robert	Telegraph probationer	2/6 per week	At Narromine.
31 ,,	Jordan Albert	Telegraph probationer	2/6 per week	*Vice* L. Morgan.
31 ,,	Jackson, Henry	Apprentice clerk	£30 per annum	At Darling Harbour
1 Sept.	Drewe, Mrs. Anne	Gatekeeper and plat form attendant.	10/- per week and house	At Clarendon.
1 ,,	Scott, David	Junior porter	2/6 per day	*Vice* H O Connor.
1 ,,	Nicholas, George	Postal assistant	5/- per week	At Bundanoon.
2 ,,	Miller, Richard	Junior porter	2/6 per day.	*Vice* T Webb.
5 ,,	Dent, Stuart	Junior porter	2/6 per day.	*Vice* E Miller.
7 ,,	Donnellan, James	Junior porter	2/6 per day.	*Vice* H. Fletcher.
7 ,,	Witney, Edmund	Junior porter	2/6 per day	*Vice* H. Kinshela.
8 ,,	Smith, Percival	Telegraph probationer	2/6 per week	*Vice* A. Danes.
9 ,,	Jones, Sarah	Gatekeeper	Free house	*Vice* K Newcombe.
9 ,,	Leckie, Arthur	Gatekeeper	15/- per week	*Vice* T. Pearcy.
9 ,,	Kerr, William	Junior porter.	2/6 per day	*Vice* P Pickin.
9 ,,	Lindsay, William	Junior porter	2/6 per day	*Vice* C. Alexander.
10 ,,	Smith, George	Junior porter	2/6 per day	*Vice* A. Surenne
11 ,,	Aspinall, James	Gatekeeper	15/- per week	*Vice* A. Killingly.
14 ,,	Williams, John	Telegraph probationer	2/6 per week	*Vice* J Jones.
14 ,,	Canham, Matthew	Junior porter.	2/6 per day	*Vice* P. Ambler
15 ,,	Thomson, John	Apprentice clerk	£30 per annum	*Vice* W Cuthbert.
15 ,,	Jones, Albert	Apprentice clerk	£30 per annum	*Vice* P Roxby.
18 ,,	McGlynn, Mary	Gatekeeper	Free house	*Vice* A Holloway.
21 ,,	Cutts, Susan	Gatekeeper	7/- per week	At Gerrie.
22 ,,	Ball, Ellen	Gatekeeper	7/- per week	*Vice* I. Ball.
22 ,,	Proctor, Arthur	Porter	6/- per day	At Car-washing Department.
22 ,,	Tayler, Archibald	Apprentice clerk	£30 per annum	*Vice* A Roberts.
22 ,,	Solomons, Alex.	Apprentice clerk	£30 per annum	*Vice* H Bray
22 ,,	Dickey, Arthur	Telephone boy	10/- per week	*Vice* R O'Neill.
23 ,,	Spence, George	Junior porter	2/6 per day	*Vice* R Baker
23 ,,	Meyer, Henry	Junior porter	2/6 per day	*Vice* G Cooke
24 ,,	Chandler, William	Junior porter	2/6 per day	*Vice* T Whiteoak.
24 ,,	White, Henry	Junior porter	2/6 per day	*Vice* W. Allen.
24 ,,	O'Brien, Joseph	Junior porter.	2/6 per day.	*Vice* F Smith
24 ,,	Mayne, Thomas	Junior porter	2/6 per day.	*Vice* J Pearce
24 ,,	Cromack, Robert	Junior porter	2/6 per day	*Vice* F. Groves
28 ,,	Bressington, Annie	Gatekeeper	Free house	*Vice* L. Jones
28 ,,	Matthews, Thomas	Gatekeeper	30/- per week	*Vice* A Adam.
29 ,,	Ramsford, Persse	Telephone boy	10/- per week	At Parcels Office.
30 ,,	McKenzie, William	Junior porter	2/6 per day	*Vice* C Douglas
30 ,,	McLennan, Herbert	Junior porter	2/6 per day	*Vice* G. Carpenter
30 ,,	Travers, John	Junior porter	2/6 per day	*Vice* J Birrell
30 ,,	Smith, Frederick	Junior porter.	2/6 per day	At Parcels Office.
		SIGNAL AND INTERLOCKING BRANCH.		
16 July	Auld, Thomas	Signal fitter	10/- per day	Transferred from Extra Staff
		ELECTRICAL ENGINEERS' BRANCH.		
21 Aug	Jeater, Ernest	District Inspector	9/- per day	Transferred from extra staff.
		PROPERTY AND ESTATE BRANCH		
1 July	Bullock, Arthur P.	Apprentice clerk	£30 per annum	Transferred from extra staff.
1 ,,	Paull, Charles B.	Apprentice clerk	£35 per annum	
3 ,,	M'Donald, Joseph	Lad	10/- per week	
3 ,,	Flanders, Amos	Foreman	9/- per day.	
3 ,,	Paterson, Ernest J.	Labourer	6/6 per day	
		COMPTROLLER OF STORES BRANCH.		
17 Sept.	Kneeshaw, John G.	Messenger	10/- per week	At Eveleigh.

APPENDIX III—*continued.*

Date.	Name.	Position.	Rate.	Remarks.
		TRAMWAYS—LOCOMOTIVE BRANCH.		
1895.				
2 July	Hassett, Stephen	Cleaner	3/9 per day	Extra service, Crown-street Line.
2 ,,	Kennedy, Edmund T.	Cleaner	3/9 per day	
2 ,,	Holt, William J.	Cleaner	3/9 per day	
2 ,,	Abbott, Edgar	Cleaner	3/9 per day	
3 ,,	Wills, Edward A.	Cleaner	6/- per day	Transferred from extra staff.
17 ,,	Proctor, Charles G.	Apprentice	10d per day	*Vice* M. Purvis.
30 ,,	Ward, Walter A.	Shop boy	2/3 per day	*Vice* J. Lester.
3 Aug.	Rayward, Richard	Apprentice	10d. per day	*Vice* J. C Rogers.
4 ,,	Arnold, Albert H.	Boy labourer	3/- per day	*Vice* J. Byrne.
5 ,,	Lewis, William	Apprentice	10d. per day	*Vice* G. W. Noyce.
5 ,,	Hadaway, Bertie A.	Cleaner	3/9 per day	*Vice* J. Boden
28 ,,	Mitchell, Peter A.	Cleaner	7/6 per day	Transferred from extra staff.
2 Sept.	Wickham, James R.	Boy labourer	3/- per day	*Vice* J. Boxall.
3 ,,	Winfield, Alfred R.	Shop boy	3/- per day	*Vice* H. E. Patterson.
		TRAMWAYS—TRAFFIC BRANCH.		
1 July	Sherring, Edward G.	Apprentice clerk	£50 per annum	
1 ,,	Parker, Albert E.	Shorthand clerk	£90 per annum	
3 ,,	Tighe, Herbert G.	Gripman	7/6 per day	
3 ,,	Meaney, John	Gripman	7/6 per day	
3 ,,	Baylis, Walter	Conductor	6/6 per day	Transferred from extra staff.
3 ,,	Campbell, Archibald S.	Junior conductor	6/6 per day	
3 ,,	Davidson, William	Messenger	4/2 per day	
3 ,,	Bennett, Alfred J.	Junior conductor	6/- per day	
3 ,,	Conn, John W.	Junior conductor	6/6 per day	
3 ,,	Rogers, Benjamin	Junior conductor	6/6 per day	
9 ,,	Harris, William J.	Car-cleaner	7/- per day	Re-employed, *vice* P. Day.
14 ,,	Neale, Charles N.	Office lad	11/6 per week	To look after lost property.
13 Aug..	Tunks, Spencer	Junior car-cleaner	2/6 per day	
14 ,,	Campbell, William	Gripman	7/6 per day	
14 ,,	Potter, Charles	Gripman	7/6 per day	
14 ,,	Brown, Luis	Gripman	7/6 per day	Transferred from extra staff.
14 ,,	Sproule, William	Gripman	7/6 per day	
14 ,,	Bales, Charles H.	Starter	7/- per day	
14 ,,	Murray, Alfred H.	Conductor	6/6 per day	
26 ,,	Gaudry, George L.	Junior car-cleaner	2/6 per day	*Vice* J. Bolton.
28 ,,	Byrne, Charles M.	Junior conductor	6/6 per day	Transferred from extra staff.
28 ,,	Doyle, Joseph P.	Gripman	7/6 per day	
16 Sept.	Chambers, John	Junior car-cleaner	2/6 per day	*Vice* C. Brooks.
		TRAMWAYS—MAINTENANCE BRANCH.		
3 July	M'Donald, John A.	Tool collector	2/- per day	
3 ,,	Simpson, William	Tool collector	2/- per day	
17 ,,	Crowley, Jeremiah	Labourer	7/- per day	
17 ,,	Jarrett, Thomas	Labourer	7/- per day	
17 ,,	Riley, Michael	Labourer	7/- per day	
17 ,,	Duggan, James	Labourer	7/- per day	
17 ,,	Gorman, John	Labourer	7/- per day	
17 ,,	Malone, Joseph	Labourer	7/- per day	
17 ,,	Conroy, John	Labourer	7/- per day	
17 ,,	Gibson, George	Labourer	7/- per day	
17 ,,	Quine, James	Labourer	7/- per day	Transferred from extra staff.
17 ,,	Fulton, Charles	Junior labourer	6/- per day	
17 ,,	Young, Ernest	Junior labourer	6/- per day	
17 ,,	Pauley, James	Junior labourer	6/- per day	
17 ,,	Newton, William J.	Junior labourer	6 - per day	
31 ,,	Bourke, Thomas W.	Labourer	7/- per day	
31 ,,	Larkin, Michael	Labourer	7/- per day	
11 Sept..	Chapman, Richard	Labourer	6/6 per day	
11 ,,	Miffen, Edward	Labourer	6 6 per day	
11 ,,	Ward, Edward	Labourer	6/6 per day	
11 ,,	Brown, Charles	Labourer	6/6 per day	

APPENDIX IV.

NEW SOUTH WALES GOVERNMENT RAILWAYS AND TRAMWAYS.

RETURN, in accordance with Clause No. 44 of the Railway Act, showing the Removals of Employees from the 1st July to the 30th September, 1896.

Date.	Name.	Position.	Rate.	Remarks.
		CHIEF ACCOUNTANT'S BRANCH.		
1896.				
11 Aug..	Solomons, Simeon	Apprentice Clerk	£70 per annum	Resigned.
		TRAFFIC AUDITOR'S BRANCH.		
22 Aug..	Hatton, George	Junior clerk	£80 per annum	Resigned.
13 Sept.	Sheridan, Robert J.	Traffic Auditor	£700 per annum	Deceased.
		ENGINEER-IN-CHIEF FOR EXISTING LINES BRANCH.		
5 July	Suthons, Joseph	Fettler	7/6 per day	Deceased.
17 ,,	Dymond, Henry	Fettler	7/6 per day	Deceased.
23 ,,	Burgess, George	Ganger	9/- per day	Discharged
25 ,,	Holloway, Edward	Fettler	7/6 per day	Deceased.
30 ,,	O'Brien, William	Fettler	7 6 per day	Retired.
30 ,,	Absalom, John	Fettler	7/6 per day	Retired.
30 ,,	Deacom, James	Labourer	7/6 per day	Retired.
30 ,,	Hearne, Joseph	Fettler	7/6 per day	Retired.
30 ,,	Prime, Charles	Labourer	7/6 per day	Retired.
31 ,,	Mitchell, Joseph	Fettler	7/6 per day	Resigned.
1 Aug..	Miller, Henry	Messenger	8/6 per day	Retired.
4 ,,	Langford, Henry	Fettler	7/6 per day	Resigned.
13 ,,	Keevers, Matthew E.	Fettler	7/6 per day	Resigned.
15 ,,	M'Nuff, Edward	Fettler	7/6 per day	Resigned.
21 ,,	Taig, John	Labourer	7/6 per day	Deceased.
25 ,,	Martin, John R., Junior	Labourer	6/6 per day	Resigned.
27 ,,	Paton, Charles	Fettler	7/6 per day	Retired.
29 ,,	Cummins, Richard	Fettler	7/6 per day	Deceased.
9 Sept.	Steel, Thomas	Labourer	7/6 per day	Deceased.

APPENDIX IV—*continued*

Date	Name	Position	Rate	Remarks
1896		CHIEF MECHANICAL ENGINEER'S BRANCH		
3 July	Haste, Frank	Striker	7/6 per day	Resigned
6 ,,	Drewe, Herbert	Striker	7/6 per day	Resigned
7 ,,	White, Arthur W	Fitter	10/ per day	Retired
9 ,,	Kemp, Walter J R	Apprentice	1/3 per day	Resigned
9 ,,	Knox, Andrew	Gland packer	8/ per day	Resigned
20 ,,	Dunn, James	Labourer	6/6 per day	Deceased
23 ,,	Foster, Robert	Painter	9/ per day	Retired
23 ,,	Robson, Thomas	Painter	9/8 per day	Retired
23 ,,	Fleming, John	Painter	9/ per day	Retired
23 ,,	Bowman, Frank	Painter s assistant	7/6 per day	Retired
23 ,,	Aubrey, David	Driver	12/ per day	Retired
23 ,,	Vercoe John	Fuelman	7/6 per day	Retired
23 ,,	Walker, William	Gland packer	10/ per day	Retired
23 ,,	M'Pherson, James	Labourer	7/ per day	Retired
24 ,,	Treadwell, Edward	Pumper	8/8 per day	Deceased
25 ,,	Petrie, Frederick	Pumper	8 8 per day	Deceased
27 ,,	Egan, Michael	Storeman	6/6 per day	Deceased
30 ,,	Plunkett, Thomas	Driver	14/ per day	Retired
31 ,,	Peat, William	Fireman	10/ per day	Deceased
31 ,,	Lemon, William	Labourer	7/6 per day	Deceased
6 Aug	Smith, James	Cleaner	7/ per day	Resigned
8 ,,	Schlinker, John	Furnaceman	9/6 per day	Deceased
8 ,,	Tideswell, Walter	Apprentice	5/ per day	Resigned
13 ,,	Key, Percy	Apprentice	5/ per day	Resigned
15 ,,	Robertson, David	Fitter	10/ per day	Discharged
20 ,,	Anderson, James	Labourer	7/ per day	Resigned
21 ,,	M'Donald, James	Fireman	8/ per day	Discharged
24 ,,	Roney, Nelson	Boilermaker's assistant	7/6 per day	Deceased
29 ,,	Taylor, James R	Car builder	10 per day	Resigned
14 Sept	Smith, William	Fireman	10/ per day	Discharged
17 ,,	Fell, George F	Shop boy	5/ per day	Resigned
17 ,,	Harkness, John	Boilermaker	11/6 per day	Resigned
19 ,,	Egan, Timothy	Fireman	10/ per day	Resigned
24 ,,	Westwood, Edwin	Striker	7/6 per day	Resigned
25 ,,	Orr, William	Painter s assistant	7/6 per day	Deceased
26 ,,	Cameron, William	Fireman	9/ per day	Deceased
29 ,,	Smith, John	Labourer	7/6 per day	Resigned
		CHIEF TRAFFIC MANAGER'S BRANCH		
25 June	Herring, Fanny	Gatekeeper	Free house	Resigned
25 ,,	Allen, James	Gatekeeper	7/6 per week	Resigned
1 July	M'Callum, Donald	Porter	7/ per day	Deceased
1 ,,	Owen, Richard	Porter	7/ per day	Discharged
2 ,,	Rowland, Esther	Gatekeeper	Free house	Resigned
4 ,,	Boswell, Thomas	Gatekeeper	7/6 per day	Deceased
9 ,,	Morris, Cecelia	Gatekeeper	Free house	Discharged
9 ,,	Holloway, Annie	Gatekeeper	Free house	Resigned
9 ,,	Gamfield, Matilda	Gatekeeper	7/ per week	Resigned
10 ,,	Danes, Abel	Porter	7/6 per day	Discharged
11 ,,	Richard, Mrs	Platform attendant	5/ per week	Discharged
15 ,,	Butler, Walter H	Junior porter	5/ per day	Resigned
18 ,,	Davis, Matilda	Gatekeeper	7/ per week	Resigned
20 ,,	Hutson, Keziah	Gatekeeper	Free house	Discharged
21 ,,	Stead, George	Officer in charge	£140 per ann	Resigned
21 ,,	Jones, Evan	Porter	8/6 per day	Deceased
22 ,,	Killingly, Alfred	Porter	7/6 per day	Discharged
23 ,,	Pringle, William	Junior porter	2 6 per day	Discharged.
23 ,,	Miller, John	Junior porter	4/2 per day	Discharged
25 ,,	Price, Thomas	Porter	7/ per day	Discharged
27 ,,	Clifford, William	Shunter	7/6 per day	Resigned
27 ,,	Dickson, James	Junior porter	5/ per day	Deceased
28 ,,	O Neill, Robert	Operator	£90 per annum	Resigned
28 ,,	La Roche, George	Relieving officer in charge	£150 per annum	Resigned
30 ,,	Clarke, Charles	Porter	7/6 per day	Retired
30 ,,	Flannery, Michael	Porter	7/6 per day	Retired
30 ,,	Partington, William	Porter	8/ per day	Retired
31 ,,	Brown, William	Junior clerk	£100 per annum	Resigned
31 ,,	M'Neale, James	Porter in charge	36/ per week and house	Resigned
31 ,,	Davies, George	Clerk	£150 per annum	Resigned
31 ,,	Jaques, Joseph	Clerk	£200 per annum	Resigned
31 ,,	Daniel, Frederick	Clerk	£170 per annum	Resigned
1 Aug	Chandler, Stephen	Porter	7/6 per day	Retired
2 ,,	Warren, Joseph	Porter	8/ per day	Deceased
4 ,,	Porteus, John A	Clerk	£130 per annum	Resigned
4 ,,	Carberry William	Junior clerk	£90 per annum	Resigned
4 ,,	Webb, Thomas	Signalman	11 per day	Retired
4 ,,	Thomson, Charles	Junior porter	5/ per day	Resigned
4 ,,	O Connor, Henry	Porter	6 per day	Resigned
6 ,,	Read, Francis	Porter	6/ per day	Resigned
6 ,,	Anderson, John	Clerk	£165 per annum	Retired
7 ,,	Matthews, Thomas	Porter	8/ per day	Retired
7 ,,	Wright, George	Guard	10/6 per day	Retired
10 ,,	Hall, Thomas	Porter	7/- per day	Resigned
12 ,,	Pearcy, Thomas	Night officer	£140 per ann	Resigned
12 ,,	Cromack Alfred	Officer in charge	£150 per ann	Deceased
12 ,,	Cottingham, Frank	Telegraph probationer	2 6 per week	Resigned
12 ,,	Hall, William	Night watchman	7/ per day	Retired
13 ,,	Colgan, John	Clerk	£130 per ann	Resigned
17 ,,	Pringle, Ralph	Telegraph probationer	2/6 per week	Discharged
17 ,,	Tucker, Herbert	Signalman	9/6 per day	Discharged
20 ,,	Davies William	Porter	7/ per day	Resigned
21 ,,	Jones, Lilian	Gatekeeper	Free house	Resigned
25 ,,	Futton, Walter	Junior porter	5/ per day	Resigned
25 ,,	Flanders, William	Junior porter	5/ per day	Resigned.
26 ,,	Yeo, James	Porter	7/ per day	Retired
27 ,,	Hicks, Ernest	Junior porter	4/2 per day	Resigned
27 ,,	Ambler, Percy	Junior porter	5/ per day	Resigned
27 ,,	Dickey, James	Officer in charge	£140 per ann	Discharged
27 ,,	Selden, Oswald	Relieving station master	£180 per annum	Resigned
28 ,,	Fletcher, Henry	Junior porter	3/4 per day	Resigned
28 ,,	Flanders, Archibald	Junior clerk	£80 per annum	Resigned
29 ,,	Seckold, Herbert	Junior porter	5/ per day	Resigned
29 ,,	Moore, Thomas	Junior porter	5/ per day	Resigned
29 ,,	Dunn, Patrick	Junior porter	5/ per day	Resigned
31 ,,	Price, William	Station master	£179 per ann	Retired
31 ,,	Pontey, Robert	Junior clerk	£100 per ann	Resigned
31 ,,	Drewe, Sidney Charles	Officer in charge	£180 per ann	Resigned
1 Sept	Douglas, Charles	Porter	7/6 per day	Discharged
2 ,,	Bray, Herbert	Junior porter	5/ per day	Resigned
4 ,,	Simms, Charles	Junior porter	3/4 per day	Resigned
4 ,,	Roberts, Arthur	Porter	7/ per day	Resigned

APPENDIX IV—*continued.*

Date	Name	Position	Rate	Remarks
1896		CHIEF TRAFFIC MANAGER'S BRANCH—*continued*		
8 Sept	Newcombe Kate	Gatekeeper	Free house	Resigned
8 ,,	Elkin, Thomas	Junior clerk	£100 per ann	Resigned
10 ,,	Kinshela, Herbert	Junior porter	5 per day	Resigned
12 ,,	Hartman, Alfred	Junior porter	4/2 per day	Resigned
12 ,,	Cassin, James	Porter	7/ per day	Resigned
14 ,,	Pickering, Frank	Clerk	£130 per ann	Resigned
16 ,,	Knox, Alexander	Clerk	£230 per ann	Resigned
17 ,,	Smith, Frederick	Clerk	£150 per ann	Resigned
21 ,,	Bowden, Sarah	Gatekeeper	15/ per week	Deceased
22 ,,	Ball, Isabella	Gatekeeper	7/ per week	Discharged
22 ,,	Kellick Frederick	Clerk	£200 per ann	Resigned
23 ,,	Allen, William	Station master	£160 per ann	Resigned
23 ,,	Brown, George	Operator and clerk	£80 per ann	Deceased
24 ,,	Cuthbert, William	Junior clerk	£90 per ann	Resigned
24 ,,	Roxby, Peter	Apprentice clerk	£70 per ann	Resigned
25 ,,	Kelly, James	Porter in charge	40/ per week	Resigned
		SIGNAL AND INTERLOCKING BRANCH		
16 July	Squires, Peter	Driller	8/- per day	Resigned
		ELECTRICAL ENGINEER'S BRANCH		
2 Aug	Charlton, William H	Junior fitter	4/ per day	Deceased
22 ,,	M'Crae, Oliver	Telegraph messenger	3/10 per day	Resigned
		PROPERTY AND ESTATE BRANCH		
28 Sept	Little, Robert B	Junior clerk	£110 per annum	Deceased
		TRAMWAYS—LOCOMOTIVE BRANCH		
10 July	Dennison, Oliver	Labourer	6/6 per day	Discharged
18 ,,	Boden, Joseph	Driver	13/ per day	Retired
30 ,,	Noyce, George W	Apprentice	5/ per day	Resigned
3 Aug	Byrne, John	Labourer	7/ per day	Retired
4 ,,	Rogers, John C	Fitter	10/ per day	Retired
5 ,,	Boxall, Joseph	Watchman	7/6 per day	Retired
18 ,,	M'Anulty, William	Painter's assistant	7/6 per day	Resigned
14 Sept	Newlands, Stephen	Cleaner	3/ per day	Resigned
24 ,,	Heness, George G	Labourer	7/ per day	Deceased
28 ,,	Kelly, John	Car lifter	8/6 per day	Deceased
		TRAMWAYS—TRAFFIC BRANCH		
18 July	Jenkins, Edward	Point cleaner	7/ per day	Resigned
18 ,,	Day, Philip	Car cleaner	7/ per day	Retired
23 ,,	Brennan, George	Gripman	7/6 per day	Resigned
25 ,,	Swan, Ernest A	Gripman	7/6 per day	Resigned
27 ,,	Keeting, Richard	Flagman	7/ per day	Discharged
3 Aug	Bolton, John	Car cleaner	7/- per day	Deceased
4 ,,	Wilsson, Neil J	Senior conductor	8/6 per day	Discharged
10 ,,	King, John	Senior conductor	9/ per day	Discharged
10 ,,	Matthews, John	Senior conductor	9/ per day	Discharged
10 ,,	Williams, Charles	Senior conductor	9/- per day	Discharged
10 ,,	Humby, Arthur C	Junior conductor	7/ per day	Discharged
14 ,,	England, James	Senior conductor	9/ per day	Resigned
14 ,,	M'Callum, Charles	Junior conductor	7/- per day	Discharged
21 ,,	Downie, Robert J	Junior conductor	6/- per day	Resigned
		TRAMWAYS—MAINTENANCE BRANCH		
2 July	Ench, Matthew	Labourer	7/6 per day	Retired
16 ,,	Evans Thomas	Labourer	7/6 per day	Retired
16 ,,	Kellerman, William	Ganger	9/ per day	Retired
3 Aug	Casey, Morty	Labourer	7/6 per day	Deceased
3 ,,	Sheehan, Jeremiah	Labourer	7/6 per day	Deceased

Sydney Charles Potter, Government Printer —1896

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLAN,

RELATING TO THE

PROPOSED RAILWAY

FROM

TAMWORTH TO MANILLA.

Presented to Parliament in accordance with the provisions of the Public Works Act, 51 Vic. No. 37.

Printed under No. 21 *Report from Printing Committee,* 8 *October,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

[3*s*.] *26—*a* 1896.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable Frederick Thomas Humphery, Vice-Chairman.
*The Honorable John Davies, C.M.G.
The Honorable James Hoskins.
The Honorable Charles James Roberts, C.M.G.
The Honorable William Joseph Trickett.
*The Honorable Daniel O'Connor.

LEGISLATIVE ASSEMBLY.

Thomas Thomson Ewing, Esquire, Chairman.
Henry Clarke, Esquire.
Charles Alfred Lee, Esquire.
John Lionel Fegan, Esquire.
Thomas Henry Hassall, Esquire.
George Black, Esquire.
Francis Augustus Wright, Esquire.
Frank Farnell, Esquire.

MEMBERS OF THE SECTIONAL COMMITTEE.

Thomas Thomson Ewing, Esquire, Chairman.
The Honorable Charles James Roberts, C.M.G.
John Lionel Fegan, Esquire.
George Black, Esquire.

*On 23 May, 1896, the Honorable John Davies, C.M.G., died, and the Honorable Daniel O'Connor was, on 24 June, appointed to fill the vacancy.

GENERAL INDEX.

LIST OF WITNESSES.

[*Examined before the Committee.*]

[*Examined before the Sectional Committee.*]

APPENDIX.

(To Evidence taken before the Committee.)

(To Evidence taken before the Sectional Committee.)

PLAN.

Showing line recommended by the Committee and line originally submitted by the Department.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RAILWAY FROM TAMWORTH TO MANILLA.

REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, and the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of railway from Tamworth to Manilla," have, after due inquiry, resolved that it is expedient the proposed railway should be constructed, but instead of starting from Tamworth it should leave the Great Northern line at West Tamworth, pass on the southern side of the Peel River to a crossing below Attunga Creek, and thence follow approximately parallel the main road to Manilla, at a cost not exceeding £2,500 per mile, the total cost of land resumption not to be greater than that within the municipal boundary of Tamworth, as proposed by the Railway Commissioners; and, in accordance with the provision of subsection IV, of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

History of the proposal to construct the railway.

1. The line submitted by the Department originally formed part of a proposed branch railway from Tamworth to Barraba, the survey for which was made many years since. The plans were, however, burnt in the Garden Palace fire. In 1882 a deputation waited upon the Minister for Works and advocated the construction of a tramway or light railway. Nothing further of a definite character transpired until 1889, when the Minister promised to have the country examined as far as Bingera. Accordingly, an exploration was made by Mr. C. O. Burge, who furnished a report in February, 1890. In the same year Messrs. Scarr and Price, acting as Examiners of Public Works Proposals, reported on the proposed line as a possible route by which Inverell might be connected with the railway system. During 1892 Mr. S. Alexander, Examiner of Public Works Proposals, reported upon the proposed line; his report was laid before Parliament on 29th November in that year. On 15th February, 1893, Mr. Dowel moved in the Legislative Assembly that the proposal to construct a railway from Tamworth to Barraba, *via* Manilla, be submitted for the consideration of the Parliamentary Standing Committee, but on the question being put it was rejected. On the 15th March, 1893, a deputation representing Tamworth and district, waited upon the Minister and asked for his assistance in the matter of constructing the line by private enterprise. The next action taken was in December following, when a survey was made from Tamworth to Manilla. Subsequently, Mr. Young approved of its being extended to Barraba. The survey and plans were completed in October, 1895. On 27th September, 1895, a deputation representing the districts of Manilla, Barraba, and Bingera, urged the submission of a line from Tamworth to Barraba to the Public Works Committee. On 11th October, 1895, the Railway Commissioners were requested to report on the proposal from Tamworth to Barraba, and, after fully considering the whole question, they recommended that a line should be constructed as far as Manilla only, the extension to be

be dealt with at a future date. On 11th December, 1895, the Minister for Works moved in the Legislative Assembly, "That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of constructing a line of railway from Tamworth to Manilla." The motion was passed on division by forty-seven votes to nineteen.

Departmental description of the proposed railway.

2. The line as submitted by the Department is known as a light railway, and is 27¾ miles in length. According to the official statement it would leave the Great Northern railway at the south end of the Tamworth railway station, at about 182 miles 65 chains from Newcastle, and terminate on the left bank of the Namoi River, at about 210 miles 45 chains. The line is located to the west of the main road throughout its course to Manilla, following the valley of the Peel River for about 12 miles. The formation of the line is fairly level between Tamworth and Attunga Creek. Between this point and Manilla the line rises to a height of 428 feet, and then falls again 114 feet. The steepest grades shown on the section are, near Tamworth, 1 in 50, which are to be improved to 1 in 66, and on the rest of the line the steepest grades are 1 in 66, which it is proposed to improve to 1 in 80. The sharpest curves are 12 chains radius. The waterways are unimportant, there being only four small timber bridges proposed in addition to the culverts.

Estimated cost.

3. The estimated total cost of the railway proposed by the Department is £72,150, or about £2,600 per mile, exclusive of the cost of land and compensation.

Railway Commissioners' Report.

4. The railway is recommended by the Railway Commissioners who, in their report to the Minister, state "the land throughout the whole route is of good agricultural character, and for a considerable distance beyond the proposed terminus of the line the same class of country exists. The road through from Bingera and Barraba is a metalled one, and a considerable stream of traffic finds its way through Manilla from the district even beyond Bingera. The whole of this traffic would be intercepted by the proposed branch line, and would add a *bonâ fide* additional income to the revenue of the railways." Their estimate of the annual cost of the railway and of the traffic returns shows a loss at the commencement, but it is anticipated that when the district is further developed this loss will disappear. The Commissioners estimate the working expenses, including the interest on capital expenditure, at £5,245 per annum, and the probable receipts from traffic at £4,044, showing an annual loss of £1,201. While in the district the Commissioners "intimated to the people that if the line were constructed, local rates would be charged on all traffic passing over it." With reference to land required for railway purposes they report:—"We also informed the deputations that waited upon us for the purpose of giving information that we should advise the Government that it should be made a *sine qua non* that all the alienated land required for the line should be conveyed to the Government free of any payment for the same or for compensation, the Government doing all the legal work in connection therewith"; the land within the population area of Tamworth to be excepted from this arrangement.

The Committee's Inquiry.

5. The Committee have made full inquiry into the proposed work. The case generally as regards the railway was fully explained by the Engineer-in-Chief of the Railway Construction Branch; following him there were examined: the Secretary to the Railway Commissioners; the Railway Goods Superintendent; the Acting Chief Draftsman, Department of Lands; the Resident Engineer for Roads at Tamworth (who has charge of the road from Tamworth to Manilla); and the Hon. P. G. King, M.L.C. The Departmental evidence having been taken, a Sectional Committee visited the district, took evidence, and inspected the route of the proposed railway.

Sectional Committee's Report.

6. The Sectional Committee report that the area of country specially benefited lies within the county of Darling, extending about 35 miles east and west, and about 45 miles north and south. To this may be added a further extent of country lying to the north-east on the Horton River, and directly north towards Bingera; on the south the limit may be extended beyond Attunga, but since there is already in existence a good road to Tamworth it is not reasonable to expect much traffic between that place and Attunga. The Stock Inspector estimates the stock depastured on the area which would be benefited by the construction of the railway to be:—Sheep, 1,000,000; cattle, 50,000; horses, 30,000.

The

The area of cultivable land, which by reason of the heavy cost of road carriage offers little inducement to the agriculturist, may be approximately stated at 100,000 acres. The Sectional Committee were satisfied that if moderate railway charges were substituted for the present cost of transit it would induce not only the holders of small areas to cultivate their land, but also permit the pastoralists to make arrangements with farmers over much of the larger estates. The estimates of returns prepared by the Railway Commissioners are likely to be realised, and there is every probability that in a few years the loss now anticipated will disappear. The increase of production during the past few years, even with heavy carriage charges, justifies the belief that the traffic returns will be at once considerably augmented.

The evidence.

7. The evidence generally is favourable to the construction of a railway to Manilla. The most important points in the inquiry were :—

(1) Object in view in constructing the railway.
(2) Expected traffic.
(3) Question of cost of construction.
(4) Location of route.

Object in view in constructing the Railway.

Object in view in constructing the railway.

8. The chief object in view in constructing the line is to afford a cheaper and more expeditious means of transit to the residents in this large settled district. It is anticipated that railway communication between Tamworth and Manilla will result in a considerable increase in agricultural settlement, and aid further development in mining.

Expected Traffic.

Expected traffic.

9. The traffic expected on the line will consist mainly of wool, wheat, general merchandise, and passengers. This will be drawn principally from the district already described, and will not be materially affected by any railway extension north of Bingera, that place being the utmost limit of the influence of the proposed railway.

Question of Cost of Construction.

Question of cost of construction.

10. The estimated cost of the railway, as submitted by the Department, was £2,600 per mile. The route approved by the Committee is about one mile longer, and is estimated at £2,534 per mile. Although termed a light line of railway, the estimate per mile is in excess of the cost of the railway from Narrabri to Moree, given as about £2,409 per mile, and the railway from Jerilderie to Berrigan, which is stated at £2,000 per mile. The Engineer-in-Chief for Railway Construction explains that the earthworks on the proposed line are heavier than in the latter case.

Location of Route.

Location of route.

11. The surveyed line, as submitted to the Committee, interferes with properties within the municipal boundaries of the town of Tamworth, the value of which is estimated by the Municipal Valuer at £3,010, no allowance being made in this estimate for forced sale or for those incidental expenses which always increase the cost of Government resumptions. From the municipal boundary to the village of Attunga the value of the land is estimated at £6 per acre; to this must be added severance and the value of improvements affected. Through the Attunga holding no difficulty is apprehended in obtaining the necessary land free of cost. From the boundary of that holding to Manilla the cost of resumption would be heavy; the interference with improvements and damage by severance being considerable. It is not possible to estimate accurately what the total amount would be; but were the line, as submitted to the Committee, forced through, the expenditure for land resumption and severance would form a serious item of cost. Although Manilla is the centre of a sufficiently important district to justify the construction of a railway to it, still the Committee are not prepared to recommend Parliament to expend a large sum upon land resumption. It would be beyond the power of those specially interested in the railway to obtain the land by private agreement. The location and character of the road prevent it being utilised for railway purposes.

Route approved by the Committee.

Route approved by the Committee.

12. The Committee are of opinion that it is possible to obtain a route starting from West Tamworth, on the southern side of the Peel River, passing through the A.A. Company's Estate, crossing the Peel River below the junction of the Attunga Creek, and joining the Departmental line on the reserve beyond Attunga Creek; thence following approximately the route laid down in the original Departmental survey to the northern boundary of Attunga run; thence to Manilla, keeping back from the road a sufficient distance to the west, or placing the railway to the east of the road, and adjacent thereto, thus preventing any interference with the more costly improvements. By this means it is anticipated that it will be possible largely to reduce the cost of compensation. The only serious deviation from the originally-surveyed line is adjacent to the town of Tamworth, but since there is a good road from Attunga it is probable that residents on much of this length would prefer to cart their produce to Tamworth, even were a railway constructed adjacent to the road.

The line recommended would serve every interest as fully as that submitted by the Department of Public Works. The cost of construction would be about £64 per mile less than that of the line originally surveyed, but this route will be one mile longer. The distance from Sydney to Manilla will be unaltered. The grades on this line will be equal to those possible in the Departmental survey.

Resolution of the Committee.

13. The following extract from the Committee's Minutes of Proceedings of 4th September will show the resolution arrived at by the Committee:—

"Mr. Lee (with consent) moved—

'That in the opinion of the Committee it is expedient the proposed railway from Tamworth to Manilla, referred to the Committee by the Legislative Assembly, be carried out; but instead of starting from Tamworth it should leave the Great Northern line at West Tamworth, pass on the southern side of the Peel River to a crossing below Attunga Creek, and thence follow approximately parallel the main road to Manilla, at a cost not exceeding £2,500 per mile, the total cost of land resumption not to be greater than that within the municipal boundary of Tamworth, as proposed by the Railway Commissioners.'

"Mr. C. J. Roberts seconded the motion.

"Mr. Humphery moved—

'That the motion be amended by the omission of all the words after the words "per mile," with a view to the insertion of the following words: "and that, in terms of the Railway Commissioners' Report, it be made a *sine qua non* that all the alienated land required for the line should be conveyed to the Government free of any payment for the same, or for compensation, the Government doing all the legal work in connection therewith."'

"The amendment was seconded by Mr. Hassall, and negatived on the following division, upon the question, 'That the words proposed to be omitted stand part of the motion':—

Ayes, 6.	Noes, 5.
Mr. Ewing,	Mr. Humphery,
Mr. Roberts,	Mr. Trickett,
Mr. O'Connor,	Mr. Clarke,
Mr. Lee,	Mr. Hassall,
Mr. Fegan,	Mr. Wright.
Mr. Black.	

"The motion was then passed on the following division:—

Ayes, 6.	Noes, 5.
Mr. Ewing,	Mr. Humphery,
Mr. Roberts,	Mr. Trickett,
Mr. O'Connor,	Mr. Clarke,
Mr. Lee,	Mr. Hassall,
Mr. Fegan,	Mr. Wright."
Mr. Black.	

F. T. HUMPHERY,
Vice-Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 1 October, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

RAILWAY FROM TAMWORTH TO MANILLA.

THURSDAY, 20 *FEBRUARY*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. James Hoskins.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee proceeded to consider the proposed Railway from Tamworth to Manilla.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and examined:—

1. *Chairman.*] What are you? Engineer-in-Chief, Railway Construction Branch, Department of Public Works. H. Deane, Esq.

2. You desire to give the Committee the Ministerial view of the railway proposal before them, and also to deal with the engineering aspect of the case? Yes. I will read to the Committee the following statement:— 20 Feb., 1896.

Proposed Railway from Tamworth to Manilla.

The history of the proposed railway shows that the line originally formed part of a proposed branch line from Tamworth to Barraba, the original survey for which was made many years ago, but the plans were burnt in the Garden Palace fire.

The proposal was brought forward again in 1882 by a deputation to Mr. Secretary Lackey advocating construction of a tramway or light railway. The reply of the Minister was that consideration would be given to the matter if the Camden tramway, which had just then been constructed, and which was in the nature of an experiment, proved to be a success. Nothing further of a definite character appears to have been done until 1889 when Mr. Dowel, M.P., brought the matter before Mr. Secretary Bruce Smith who promised to have the country examined as far as Bingera. An exploration was accordingly made by Mr. C. O. Burge who reported in February 1890.

In the same year, Messrs. Scarr and Price, who were acting as Public Works Examiners, reported on the line as a possible route by which Inverell might be connected with the railway system.

In April, 1892, a deputation waited upon Mr. Secretary Lyne to request that a further report might be obtained as to the desirableness of constructing a line from Tamworth to Barraba with branches to Moree and Inverell. As a result, Mr. Alexander, then Examiner of Public Works Proposals, was instructed to report. His report, which is attached hereto, was laid before Parliament on 29th November, 1892.

On the 15th February, 1893, Mr. Dowel moved in the Legislative Assembly that the proposal to construct a railway from Tamworth to Barraba *via* Manilla be submitted for the consideration of the Parliamentary Standing Committee, but on the question being put it was rejected. Shortly afterwards, namely, on the 15th March, 1893, a deputation representing Tamworth and district, introduced by Messrs. Dowel and Hassall, Ms.P., waited upon Mr. Secretary Lyne and asked for his assistance in the matter of constructing the line by private enterprise.

Mr. Lyne, in reply to the deputation, stated that he had not the least objection to the construction of the line by private enterprise, but such a course would be a deviation from the established rule and system, as the railway construction of the Colony was at present being carried out by the Government.

H. Deane, Esq. 20 Feb., 1896.

He promised, however, to consult his colleagues on the matter. The next action taken was in December following, when Mr. Lyne approved of a survey being made from Tamworth to Manilla. Subsequently, Mr. Secretary Young approved of its being extended to Barraba. The survey and plans were completed in October, 1895.

On 27th September, 1895, Mr. Moore, M.P., introduced a deputation representing the districts of Manilla, Barraba, and Bingera, and urged the submission of a line from Tamworth to Barraba to the Public Works Committee.

On the 11th October, 1895, the Railway Commissioners, by direction of the Minister, were asked to report on the proposal from Tamworth to Barraba, and after a full consideration of the whole question, they recommended that a line should be constructed as far as Manilla only, the extension to be dealt with at a future date. The Commissioners' letter, dated the 1st November, 1895, in which they set forth their reasons for their recommendation, is as follows :—

Office of the Railway Commissioners of New South Wales, Sydney, 1 November, 1895.

The Honorable the Minister for Public Works,—

We have the honor to intimate that, in accordance with the request contained in Minute of 11th October, we have investigated the proposal to construct a railway from Tamworth to Barraba, and after full consideration of the whole surroundings we would beg to recommend that a line should be constructed from Tamworth to Manilla only, leaving the extension to be dealt with at a future date.

One of our main reasons for recommending this course is that a costly bridge would be necessary to carry the railway over the Manilla and Namoi Rivers at Manilla—the cost of the bridge would probably amount to £20,000—and that the country from Upper Manilla northwards is of a rougher character and would be more costly to construct a railway through ; moreover, it is not such good agricultural country as further south.

A larger question is opened out if the line is constructed as far as Barraba, and that is whether it would not be a desirable thing to extend the line to Inverell. This subject requires most careful consideration in conjunction with other schemes that have been proposed at various times for connecting Inverell with the general railway system.

We would be glad to know whether the Minister still wishes to have our report under seal in regard to the line throughout from Tamworth to Barraba, or whether he agrees in the view expressed in regard to the line terminating at Manilla. If so, we will submit our report under seal in regard to that section.

We may state that we intimated to the people of the district that if the line were constructed, local rates would be charged on all traffic passing over it. They expressed their willingness to pay the rates which were indicated.

We also informed the deputations that waited upon us for the purpose of giving information that we should advise the Government that it should be made a *sine qua non* that all the alienated land required for the line should be conveyed to the Government free of any payment for the same or for compensation, the Government doing all the legal work in connection therewith. We think it would be only reasonable, however, for the land necessary within the population area of Tamworth as now defined on the maps of the Department of Lands to be excluded from this arrangement, as the residents in the suburbs of Tamworth will not, of course, be interested in any way in giving land.

E. M. G. EDDY,
Chief Commissioner.
CHARLES OLIVER,
Commissioner.
W. M. FEHON,
Commissioner.

The Minister having concurred in this recommendation the Commissioners were asked to report on the proposal from Tamworth to Manilla *only*, and on the 11th November, 1895, they forwarded their report in accordance with the provision of the Public Works Act. It is as follows :—

Office of the Railway Commissioners of New South Wales, Sydney, 11 November, 1895.

Proposed line of Railway, Tamworth to Manilla, 27¾ miles.

In accordance with the provisions of section 13 of the "Public Works Act, 1888," we beg to report as under :—

Cost of construction—		
The Engineer-in-Chief for Construction estimates the cost of construction of a single line of light railway (exclusive of land and compensation) at		£72,150
Annual cost—		
Interest on capital expenditure, at 3¼ per cent.	£2,345	
Cost of maintaining permanent-way, traffic, and locomotive expenses	2,900	
Total working cost		£5,245
Traffic estimate—		
Goods and live stock traffic	£2,908	
Passenger traffic	800	
Mails	336	
Total estimated traffic		£4,044

The land throughout the whole route is of a good agricultural character, and for a considerable distance beyond the proposed terminus of the line the same class of country exists.

The road through from Bingera and Barraba is a metalled one, and a considerable stream of traffic finds its way through Manilla from the district even beyond Bingera. The whole of this traffic would be intercepted by the proposed branch line, and would add a *bona fide* additional income to the revenue of the railways.

We may state that we intimated to the people of the district that if the line were constructed local rates would be charged on all traffic passing over it. They expressed their willingness to pay the rates which were indicated.

We also informed the deputations, which waited upon us for the purpose of giving information, that we should advise the Government that it should be made a *sine qua non* that all the alienated land required for the line should be conveyed to the Government free of any payment for the same or for compensation, the Government doing all the legal work in connection therewith. We think it would be only reasonable, however, for the land necessary within the population area of Tamworth, as now defined on the maps of the Department of Lands, to be excluded from this arrangement, as the residents in the suburbs of Tamworth will not, of course, be interested in any way in giving land.

The Seal of the Railway Commissioners of New South Wales was hereunto affixed, this eleventh day of November, One thousand eight hundred and ninety-five, in the presence of—

H. M'LACHLAN.

E. M. G. EDDY, (L.S.)
Chief Commissioner.
CHARLES OLIVER, (L.S.)
Commissioner.
W. M. FEHON, (L.S.)
Commissioner.

On

H. Deane, Esq.

20 Feb., 1896.

On the 11th December, 1895, Mr. Secretary Young moved in the Legislative Assembly, "That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of constructing a line of Railway from Tamworth to Manilla." The motion was passed on division by 47 votes to 19. The official description of the line is as follows:—

LINE FROM TAMWORTH TO MANILLA.

Single line; length 27¾ miles; estimated cost, £72,150, for a light line of railway, exclusive of land and compensation.

THE proposed branch line would leave the Great Northern Railway at the south end of the Tamworth railway station, at about 182 miles 65 chains from Newcastle, and terminate on the left bank of the Namoi River, at about 210 miles 45 chains.

The line traverses ground on the west of the main road throughout its course to Manilla, being on the right bank of the Peel River for about 12 miles, passing through Attunga. The formation of the line is fairly level, with slight undulations between Tamworth and Attunga Creek. Between this point and Manilla the line rises to a height of 428 feet and then falls again 114 feet down to Manilla. The steepest grades shown on the section are, near Tamworth, 1 in 50, which are to be improved to 1 in 66, and on the rest of the line the steepest grades are 1 in 66, which it is proposed to improve to 1 in 80. The sharpest curves are 12 chains radius. The waterways are all very small, there being only four small timber bridges proposed in addition to the culverts.

The proposed line of railway traverses the southern end of a route by which the produce from extensive areas as far as the Queensland border have regularly been carted to the Great Northern Railway at Tamworth, and along which, from Tamworth, all sorts of supplies have been returned. A considerable portion of this traffic will now be directed from this route to Moree, which place will soon be the terminus of an extension of the North-Western Railway that is now being built from Narrabri, and another portion of the same traffic would undoubtedly be taken to Inverell were a railway connection constructed between that town and the Great Northern Railway, or *via* Moree if a railway be constructed between Moree and Inverell; but there still would remain an extensive area in the county of Murchison and along the Gwydir River which will ever be served by the Tamworth station on the Great Northern Railway. The route *via* Bingera, Barraba, and Manilla to Tamworth has ever been a favourite with drovers and teamsters, because of the favourable conditions for travelling always experienced along it—in climate, good roads, and good camping grounds.

These arguments have equal force in favour of constructing the whole line as far as Barraba at once, but it is felt that some hesitation is advisable before taking this step in view of the uncertainty that surrounds the question of the service of that tract of country lying to the west of the Great Northern Railway as far north as the Queensland border. The direct connection of Inverell with the existing railway system must, if decided on, alter very considerably the conditions to be served in the districts now being catered for.

The proposal now made to construct a line from Tamworth to Manilla only may be supported on its own merits as not being in conflict with or infringing other interests in the way of diverting traffic from existing lines, and as being a decided feeder to the existing railway system, because it will bring to pass considerable development in all branches of farming and settlement of lands, and, possibly, in mining.

The situation of Manilla is a favourable one for a railway station, as it is surrounded by extensive areas of the best land, and is a point to which several routes of traffic converge.

Statistics of the district to be directly served by the proposed railway, including all the area within 10 miles of Tamworth, have been furnished by Mr. Alexander to the Minister for Public Works, and they show that in 1892 the population was 3,000; the cultivable area, 145,730 acres; and the area under cultivation, 10,389 acres; that the land alienated amounted to 545,383 acres, or 852 square miles, and unalienated to 499,805 acres, or 781 square miles.

From this area it is estimated that 5,000 bales of wool were collected in the season of 1891-92, and that in addition 6,000 bales were passed through the district from the north. There were ninety-six regular carriers on the road, representing 113 teams, but during the busy season their numbers were considerably augmented.

The whole of these areas are confined by natural features in a way that no outlet from them is possible except *via* Tamworth. The Nandewar Range is the boundary of the district on the west and north, and the Moonbi Range on the east.

The estimated cost of constructing the line from Tamworth to Manilla is £72,150. The Railway Commissioners estimate the working expenses, including the interest on capital expenditure, at £5,245 per annum, and the probable receipts from traffic at £4,044. This estimate shows an annual loss of £1,201 per annum, but the Railway Commissioners recommend that the line be constructed, stipulating that special local rates shall be charged on all traffic passed over it, and that all the land required for the line shall be conveyed to the Government, free of charge or claim for compensation, excepting for the legal expenses incurred in conveyancing, and excepting from this arrangement the land within the population area of Tamworth.

I hand in a map showing the country situated within 20 miles of the proposed railway; a compilation of parish maps showing the course of the line and the properties through which it will pass; a plan, on a scale of 4 chains to the inch, showing in greater detail the course of the proposed railway; also section of the line, and Book of Reference. It is proposed by the Railway Commissioners that all the land shall be given free, and I think that as a rule the residents should only be too glad to do so, as a return for getting the railway constructed.

3. *Mr. Hoskins.*] Have any of the them notified their willingness to give the land? I cannot say whether they have actually done so. With regard to severance, when I was in Manilla, I asked Mr. John Barling, who has the station of Upper Manilla, his opinion as to severance, and he told me that if the line were made without fencing, so that people could get their produce and stock across at any point, there should be no claim whatever for severance.

4. *Mr. Hassall.*] You say the cost of this line would be £72,150, or about £2,600 per mile? Yes, that is the estimated cost of construction only.

5.

H. Deane, Esq. 20 Feb., 1896.

5. There is no difficult country along the proposed line? No; it is not a difficult country through which to make a railway.
6. Will there be any heavy cuttings or embankments? Yes; there will be some few at the start near Tamworth. It will not be a surface line, like some lines that have been recommended lately—not quite so cheap. There will be more earth-works.
7. But the country itself is of a fairly level character, is it not? Yes, undulating; there are some good hills, but still they are easily negotiable.
8. Practically, I suppose the line follows the course of the road? It never diverges very far from the road.
9. On the eastern or western side of the road? On the western.
10. That is lying between the road and the Peel River? Yes.
11. Have you any idea why the Railway Commissioners recommend the construction of the line only as far as Manilla? I think that is pretty well explained in their report.
12. Is it in consequence of the difficulty of construction further north? The portion from Tamworth to Manilla is the cheapest, and the land is the best.
13. But do you think there will be any advantage in constructing a line from Tamworth to Manilla without taking it any further? I should think so. There will be an advantage in constructing this portion of the Barraba line, even if the other be not constructed.
14. In what way? You go through some very fine country, and when you get to Manilla you serve a good deal of the country beyond. By constructing this portion of the line, you would save nearly 30 miles of cartage.
15. But there is a very good road for that 30 miles? Yes.
16. And a good road right away through to Warialda? There is a good road as far as Barraba; I have not been any further.
17. As there is a good road and plenty of carriers, what advantage would be derived from putting down this short length of line to Manilla if it is not intended to carry it any further? It would be an advantage to all the producers; they would get cheaper freights.
18. The Railway Commissioners propose that local rates should be charged, and expressly stipulate that if the line is constructed they will have to charge heavier rates than those charged on existing lines? Yes.
19. We have had an illustration of the effect of local rates on different lines in the fact that carriers have competed with the railway; and if this short length of line were constructed it might happen that carriers would be able to compete with the railway if local rates were charged, considering that the road is a good one? On that point I would be glad if you would ask the Commissioners, who would be able to give you better information than I can.
20. You have been up as far as Barraba? Yes.
21. What is your opinion of the country between Manilla and Barraba? A great deal of it is very good. It is considerably more hilly between Manilla and Barraba, than between Tamworth and Manilla.
22. Is not the country at Barraba as good as that about Manilla for agriculture? I should say it was, only, perhaps, there is not so much of it. It is not so extensive or so unbroken.
23. But the quality is equally as good as that at Manilla? I should say the quality was about the same.
24. There is a good scope of country between Manilla and Barraba equally as good as the country about Manilla? Yes; it is closed in. As you go along the road you notice that after a time the hills close you in, and there is rough country which is only good for pasturage. But where the country opens out again as you get to Barraba, the land is very good indeed.
25. Are the engineering difficulties much greater between Manilla and Barraba, than between Tamworth and Manilla? They are greater.
26. Has a survey been made of that portion? Yes; it has all been surveyed right into Barraba. My estimate of the cost of the whole line from Tamworth to Barraba is £200,800. The distance between Manilla and Barraba is 30 miles. Therefore, the cost of the portion between Manilla and Barraba would be £128,150 according to my estimate, or between 60 and 70 per cent. more than the cost of the line from Tamworth to Manilla.
27. And according to their report the Railway Commissioners do not feel justified, at any rate at the present time, in recommending the construction of the line through to Barraba, involving such a large expenditure? That is how the matter stands. I may say that about £20,000 of the estimate just mentioned is due to a bridge over the river.
28. Does your survey show that any large quantity of land would have to be resumed for the construction of this line? I have not calculated the matter out, but I can obtain the information for the Committee.
29. Have you any idea of the value of the land through which the railway will pass? That is a point upon which I would rather not give an opinion.
30. Judging from what you saw of it, is it fairly good agricultural country? Yes.
31. You do not think the Government could resume it for £1 an acre? No; I should think it would be three or four times that amount.
32. Would it be necessary to resume much land in the vicinity of Tamworth? I have had the line laid out so as to avoid as much as possible cutting into property, even at the cost of rather increasing the earth-works. I have endeavoured to keep parallel to the road, so as not to cut across allotments cornerways.
33. But it would appear from the plans that the line would go through a considerable quantity of purchased land close to Tamworth? Yes; it would.
34. I think you said the steepest grade on the line would be 1 in 66? The grades shown on this section are 1 in 50 facing Manilla, and 1 in 66 facing Tamworth. They will be improved to 1 in 66 facing Manilla, and 1 in 75 facing Tamworth, so that the ruling grade, with the heavy traffic going towards Tamworth, will only be 1 in 75. The grade of 1 in 66 is the best that could be obtained without serious expense. The estimate of cost applies to the improved grades.
35. I think you said that the residents would be pleased to give their land in order to get the railway? Yes.
36. Do you not think they might say, "We have a railway already at Tamworth; we have no particular desire to see this railway constructed out towards Manilla, and we object to give our land free";—would not

H. Deane, Esq.

20 Feb., 1890.

not this be the case, especially with regard to land of a valuable character? There might be some who would say that.

37. Do you think there would be a little difficulty in that respect? I think it possible that some of the people might not care for the railway—might not think it worth while.

38. And if three or four, or five or six of them objected to give their land free, do you not think the rest would follow suit? No; I think it probable that the others would combine and buy them out. It could scarcely be expected that the people who had land for the first few miles of the line would give their land free, because they would not benefit, as they would just as easily run into Tamworth, and probably prefer to do so than take the local station. That, however, would only apply for the first few miles.

39. Might not the Manilla people say the same thing—that they have a good road to Tamworth, and could drive there in half a day, or take their produce in in two days? I do not think they would say that; I think they are anxious for the railway.

40. As a first instalment, perhaps, of something further out? I think they would prefer that it should stop at Manilla.

41. I think I heard you say that if the line were constructed to Barraba, there might be a question as to carrying it on to Inverell;—do you think there is any probability of that being done? I think it will take a good many years. I have had the country between Barraba and Inverell examined, and between Barraba and Bingera it is very heavy.

42. Do you think there is little or no prospect of the line being constructed from Barraba towards Bingera? Not immediately; I could not say what might be done in the future. It might be a desirable thing to carry out, but there is no immediate necessity for it, and I should say the necessity is not likely to occur for some time. I think it is very likely that if the northern line had not been taken up the Moonbi, a line along Manilla and Barraba would have been a better line by which to get up into New England. The comparatively short distance of heavy works between Barraba and Bingera would be trifling as compared with the large extent of heavy works on the existing line.

43. I suppose you are of the same opinion as the general body of the public in that respect—that the line took the wrong route from Tamworth to the New England country? Yes; I think it ought to have gone the way I have mentioned.

44. Have you any knowledge of the deputations that waited upon the Minister with reference to the construction of the railway further out? No.

45. Did you travel over the route as far as Bingera? No; I only went as far as Barraba.

46. It is only, therefore, from reports that you have a knowledge of the country beyond Barraba? I have the reports of the examiners (Messrs. Wilkinson, Price, and Scarr), and the report of my officers—Mr. Burge and Mr. Stewart.

47. And what is the general tenor of their reports with regard to the construction further out? That it is extremely heavy.

48. Of too expensive a character? Yes. From Bingera you have to rise about 500 feet to get over the range, and then there is a drop of about 1,000 feet into Hall's Creek. The steepest grade between Barraba and Bingera is at the Devil's Elbow.

49. I gather from what you say that the prospect of any further extension of the railway from Manilla would be very problematical, at any rate, for many years to come? Yes.

50. I suppose you have a knowledge of the survey which is being made between Moree and Inverell? Yes.

51. Do you think there is a probability of that portion of the country being served either from Moree or from Glen Innes? Yes; the survey of the Moree to Inverell line is complete, and I am now going into the estimate.

52. If the extension were made from Moree to Inverell, do you think there would be very little necessity to carry this line any further than Manilla? No; the map shows that Bingara will not be very far from that proposed line.

53. If the proposed extension were made from Moree to Inverell, serving all that country and taking in the Warialda and Bingera country, and all the country out to the northern border, do you not think that line would intercept all the border traffic which would come in to Moree and round by Narrabri? Yes; the line from Moree to Inverell would certainly intercept all the border traffic.

54. Then the proposed line to Manilla would be left practically with only the traffic from a little way beyond Barraba, say as far a Cobbedah, or a little beyond? Yes; comparatively speaking, it would be local traffic. Still it is a pretty good sized district, taking it as far as Cobbedah.

55. In the event of the construction of the line from Moree to Inverell, do you not think this portion of the country would almost be as well served by the road which the people have at present, as by the proposed railway, for a distance of 27¾ miles? I do not think so. I think there would be an advantage in making the line, even if it only went for 30 miles.

56. And to act as a feeder to the main line? Yes; the district is a very important one for wheat cultivation. I do not think that if this railway is taken to Manilla the lines will clash, assuming that the Moree to Inverell line is constructed. You have to consider whether the line from Tamworth to Manilla is desirable, not to assist the traffic from the border, but to carry the produce from the neighbouring district extending as far as Barraba or Cobbedah, and both east and west of the line.

57. You are of opinion that the construction of this proposed railway would further develop the country and assist in creating traffic? Yes.

58. That more land will be put under cultivation, and greater traffic result from the facilities offered to carry produce to market? Yes; even as it is, I believe every year there is more land put under cultivation. So that in that way every year there is an increasing chance of the revenue from the railway being sufficient to pay.

59. There is a large area of land very suitable for agriculture not at present under cultivation? Yes.

60. And a good deal of Crown land still available? It will be seen from the map that I handed in that the land is nearly all alienated. The part coloured purple represents actual freehold, and that coloured blue land conditionally purchased.

61. *Mr. Hoskins.*] Is this proposed railway from Tamworth to Manilla what you term a light line of railway? It is a cheap line. It is really one of the same class; but the earthworks are heavier than in the case of the Berrigan line and the Parkes to Condobolin line.

H. Deane, Esq. 20 Feb., 1896.

62. The estimated average cost of the line from Narrabri to Moree was £2,409 per mile. How is it that while that estimate includes an expensive bridge, and a liberal provision in the shape of culverts required owing to the flooded state of the country, the estimate for this proposed railway, which does not show the same difficult features, should be £2,600 per mile? The Narrabri to Moree estimate is divided into two parts. The estimated average cost for the whole line is £2,409 per mile. The estimated average cost for the second part—the part north of Narrabri itself—was £2,667 per mile. That is the part that does not include the bridge, and that would be the part with which we might make a fair comparison. That country is much more level than the country between Tamworth and Manilla. The earthworks on the Manilla line are heavier. I have estimated their cost to be £109 per mile more than the cost of those on the Narrabri line. On the other hand the box-drains and culverts come to less. I find that on the whole the items fairly balance one another, except those relating to station works and junction. In the case of the Tamworth to Manilla line the cost, distributed over the line, of junction arrangements and station accommodation, amounts to £281 per mile; whereas on the second section of the Narrabri line the cost only amounts to £143 per mile. In that second section there is no junction. That would account for the difference in the main body of the estimate. The rest of the difference is in the contingencies that are allowed. I have thought it desirable to allow more in the case of the Tamworth to Manilla line.

63. Do you usually allow more for contingencies on a length of railway where you have to cross a river by a bridge, and have to construct expensive box-drains and culverts, than you do on a length of railway where the work is plain, and there are few cuttings? On the second section of the Narrabri line I have mentioned there is no bridge.

64. Is it not customary to allow more for contingencies on a length of railway where you have to contend with rivers and large creeks, and a great rush of water, such as occurs in flooded country, than where the line is comparatively free from flood? The difference really lies in this: these quantities have been taken out for the steeper grades as shown on the section. I went carefully into the matter of the flattened grades which the Railway Commissioners wanted me to provide, and I put that additional cost in the contingencies, so that the contingencies really cover any extra cost there would be through flattening the grades.

65. You still contend that this is to be one of the class of light railways about which you gave us interesting information when you came back from America, except that there are rather heavier cuttings than on the other light lines? Yes.

66. Do you propose to use ballast on this line? Some ballast, but I will save it where I can. I have reckoned for one-third of the line to be ballasted.

67. And with regard to the remaining two-thirds the sleepers are to be laid on the ground? They will be laid on the bank, but there will be a greater number of sleepers than on the existing lines. The number of sleepers will be the same as are being put on the new lines—that it 2,400 to the mile—a little over 2 feet apart, or about 2 feet 2 inches from centre to centre.

68. I suppose you intend in this proposed railway, if constructed, to adhere to the views you expressed when you returned from America, and make it what may be termed a pioneer line—to lay the sleepers and rails for the greater portion of the line on the enbankment, with ditches at the sides to drain it? The sleepers will be laid on low enbankments made from the ditches at the sides.

69. And they will be closer together than is the case on the ballasted lines? Yes.

70. What weight of rails do you propose to use? 60-lb. steel rails.

71. Do you propose to fence in the railway? No.

72. As this proposed line, according to your evidence, will probably be a very short one, and only carry local traffic, have you any reason to believe you will be able to reduce your estimate of cost below £2,600 per mile? No, I should not like to reduce the estimate; but I will save in construction if I can.

73. Who is the officer responsible for laying out this line; had he any experience of the Narrabri to Moree, the Jerilderie to Berrigan, or the Parkes to Condobolin line? Mr. Jamieson was the officer who laid out this line.

74. Did he have any previous experience of these new cheap lines you are constructing? He acted under instructions. He laid out the Berrigan line.

75. When were the surveys of this line completed? Before those of the Berrigan line, I think.

76. I gather from the statement you read, that surveys for a railway from Tamworth to Barraba had been made for some time;—have those surveys been modified by you in conformity with the views previously expressed, as to what the public required in the shape of light lines of railway, where the traffic is expected to be limited? Yes, they have.

77. The original surveys? Yes. I paid great attention to the branch lines for the last two or three years, with the object of reducing the cost.

78. *Mr. Davies.*] You are aware that the proposed line will go through private land—right through, except at the Manilla end? Yes.

79. Have you any idea of the probable cost of resumption? No.

80. Would it be £100 per mile? I would rather that the Committee obtained that information from some other officer. I have already mentioned that I think the land would be worth £3 or £4 an acre; but I am not in a position to give an accurate estimate.

81. The recommendation of the Railway Commissioners is, that it should be a condition that the land should be given? Yes.

82. Even if the land is given, the line will show an annual loss of £1,200? I think that was the amount mentioned.

83. Do you propose to use second-hand rails, or new rails? New steel rails.

84. In the construction of the Moree line a large proportion of the rails were second-hand or re-rolled rails, were they not? No; we are using new rails.

85. How do you account then for the increased cost per mile of this cheap kind of railway between Tamworth and Manilla? It is chiefly on account of the earthworks, which are heavier.

86. Are they very much heavier than on the Moree line? Yes; sufficient to account for the difference.

87. What do you estimate is the cost per mile of the earthworks? With the grading as shown on the section submitted, I estimated the cost of the earthworks at £409 per mile; but this will be slightly increased if the grades are altered to 1 in 66, and 1 in 75.

88. Could you furnish the Committee with a detailed estimate of the cost of the proposed line? Yes; it is as follows:— H. Deane, Esq. 20 Feb., 1896.

TAMWORTH TO MANILLA.

Estimated cost of a single line of railway 27 miles 60 chains in length with 60-lb rails against 1 in 66. Sharpest curve, 12 chains radius Ruling grade with load, 1 in 80,

Description	Estimated Cost.	Average per mile
	£ s d.	£
Earthworks	11,342 5 0	409
Box-drains, culverts and timber bridges	4,717 10 0	170
Overbridge	500 0 0	18
Level crossings, cattle-stops and fencing	2,700 0 0	97
Permanent-way materials	19,315 6 6	696
Platelaying at 1s, £2,442		
Ballasting one third at 3s, £2,376	13,784 2 0	497
Sleepers at 2s 9d, £8,966 2s		
Station-works, including sidings, junctions, &c.	3,986 0 0	144
Stations, passenger building "C", £350; shelter-sheds, £375, platform, £100; loading-banks, £300; station master's house, £350, goods-shed, £300, stock yards, £600; weighbridge (20 ton) £275; crane (5 ton) £200; engine shed, £500, coal stage, £100, carriage-shed, £350	3,800 0 0	137
Water supply	1,500 0 0	54
Signals	500 0 0	18
Miscellaneous, Telegraph, &c.	600 0 0	22
	62,745 3 6	2,261
Engineering and contingencies, 15 per cent.	9,411 15 6	339
Total cost	£72,156 19 0	2,600
Average cost per mile	£2,600 0 0	
Say £72,150, or £2,600 per mile.		

89. You have put down the sleepers at 2s. 9d, did not the sleepers on the Moree line cost much less? Yes; but this is not a good district for sleepers.

90. Do you propose to have dressed sleepers? No, I think they would probably be the same as those on the Moree line.

91. Where do you intend to get them from? I should think they would have to come from about Branxton or Singleton, the nearest place for ironbark

92 You do not regard 2s 9d as a high price? No, it would only be a cheap class of sleeper that you could get at that price delivered at Tamworth

93. Do you propose to erect the station buildings of timber or brick? All timber.

94 Where will you get the water supply from? I presume there will only be one water supply necessary—that will be at Manilla

95. Will the station buildings be built of timber impervious to the white ant? Yes, the local pine is very suitable

96 *Mr. Lee.*] You will remember that in considering the railway from Jerilderie to Berrigan this Committee made a very important feature in their investigation of the question of the resumption of private lands? Yes.

97 And that eventually the line was taken almost solely along the public roads? Yes.

98. I notice in examining the parish maps in connection with this line, that from start to finish the line is almost wholly alongside the main road It runs approximately parallel with the main road; but in some cases it is half a mile away, or perhaps more.

99. In some places, and for several miles at a stretch, it is absolutely alongside the boundary of the road? Yes

100. Taking the survey sketch of the road and the railway together does it not appear that the road is the shorter track of the two? It is the shorter track of the two.

101. What is the width of the road? Perhaps I might save a little time if I state that the road is not suitable by reason of the grades You could not carry a railway along the road all the way.

102 Is that the only objection? It is a very serious objection

103 Are there other objections to carrying the line along the road? It might be carried along the road if the grades were suitable in the same way as it could be carried anywhere. If there is no objection to carrying it along the road in one district, it might be carried along the road here

104. But the grades would only be found unsuitable in certain places? Up to ten or fifteen miles from Tamworth you get rises in the road and the plan shows where the spurs run up. Further on, near Attunga Creek, the line is practically alongside the road, and I do not think there would be anything to prevent the railway going along the road there. But it would be utterly impossible to follow the road after leaving that point, except as regards about 2 miles before getting into Manilla · Altogether, I do not think the line could follow the road for a greater length than 4 or 5 miles There is a rise of 300 feet in 4 miles, and some of the heaviest grades would be on that portion

105. With regard to the Tamworth end of the line, could the private lands be avoided between Attunga and Tamworth? No

106. Could you not utilise the main road there? No, it is too hilly

107. Would it not be possible to skirt the road for the whole distance, that is to say to bring the line up to the boundary of the road and get your grades there? No; it would be quite impossible. Of course, you could make a line there, but you would have grades in some cases of 1 in 20.

108. There would be two advantages by doing so. In the first place, you would have the traffic of the existing road alongside the railway, and consequently no cross roads would be necessary to get to the railway station, and by having the line alongside the road, you would possibly be able to avoid the grade of the road

H. Deane, Esq. 20 Feb., 1896.

road of which you complain? If the country were all rolled out flat, but unfortunately that is not the case.

109. *Mr. Hoskins.*] Would it not be possible to make a tramway like the Campbelltown to Camden tramway, where a few short lengths are constructed to avoid steep grades, and the rest of the line goes along the road? I think the grades on that line are 1 in 20 or 1 in 25, and you would find that the Railway Commissioners would say they could not work such a line.

110. *Mr. Lee.*] Are you responsible for the figures of the Railway Commissioners? No.

111. You are acting in a Ministerial capacity to-day, and in regard to those opinions do you not care to offer any opinion? No.

112. Taking the figures as a whole, they show that with an estimated cost of construction of £2,600 per mile, the line will result in a loss of £1,200 a year? Yes.

113. If the compensation to be paid for the resumption and severance of land came to about the same amount, it is clear that the loss would be just double? I think it would be more than double, as there would be an additional amount for interest.

114. You have already stated to the Committee that this is only regarded as a local line, and not for the purpose of being extended to Barraba, Bingera, or other places further north? Yes, I think it is clear from the statement I made that in some respects it remains a local line; that is to say, it does not tap the traffic from the extreme north of the colony on the assumption that the line from Moree to Inverell is made.

115. Viewing it in that light, would there be any insuperable objection to having a little heavier grade on a short local line? The answer to that question is so bound up with traffic considerations, that I think it would be better to consult the Railway Commissioners on the point.

FRIDAY, 21 *FEBRUARY*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. James Hoskins.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, sworn, and examined.

H. McLachlan, Esq. 21 Feb., 1896.

116. *Chairman.*] What are you? Secretary to the Railway Commissioners.

117. You come here under instructions from the Railway Commissioners to express their opinion with regard to this proposed line? Yes.

118. *Mr. Hoskins.*] Did the Commissioners of their own motion select the proposed line from Tamworth to Manilla as a line of railway which, in their opinion, ought to be made? They do not select any line of their own motion. The proposal was referred to them for their report by the Government through the Minister for Works.

119. Have the Commissioners been over the route of the proposed railway? Yes.

120. The detailed statement shows an estimate loss of £1,200 per annum? Yes, including interest.

121. With the estimate of traffic based on their statement, as well as the estimate of cost, do the Commissioners think that this is a line which it would be advisable to construct? Yes.

122. Will you kindly tell me why? Because they think it is a line which will pay more than its working expenses. Though there may be a little loss as far as interest is concerned, they think it will develop the country, and will assist the main trunk line. I have already, on one or two occasions, expressed the views of the Commissioners in regard to the construction of new railways. In their opinion it is desirable to construct a railway which will pay something more than working expenses, leaving the natural development of traffic to pay interest as well, especially where, in the meantime, the line will assist the main trunk railway.

123. Is the Committee to understand that the Commissioners are in favour of constructing a railway providing it will pay working expenses? I do not say that in all cases; but I have expressed their general opinion on the subject of new railways. I have not a copy of their views with me, but I have already quoted them once or twice before the Committee.

124. Will you give their substance? Where the country is capable of development and the line immediately upon its construction will return working expenses and a little over, they would generally recommend the construction of such a line.

125. That is not to be taken as an arbitrary dictum, but is to be modified according to the circumstances of the case? Yes; they report in each individual case.

126. Do you know whether the Commissioners took this point into consideration, that this line being only 27 miles long, the probability is that it will only be patronised by local producers, because carriers bringing goods from the northern portions of the colony, who have hitherto made Tamworth their terminus, might not be disposed to unload their goods at Manilla and send them on by railway to Tamworth, a distance of 27 miles; but would prefer to take the loading on to Tamworth, where there are larger stores and greater facilities for business? That would apply if Tamworth were the final terminus for the goods; but most of the goods having to go right through to the seaboard by rail, they would take the first trucking point. That has been the experience in the case of most of our railway extensions, some of which have been very little longer than this proposed line.

127. Have you any knowledge which would lead you to believe that the local traffic on this proposed line would yield a return more than equal to the working expenses? On matters relating to the probable traffic, it would be better that the Committee should obtain information from Mr. Harper, the Goods Superintendent, who has collected data in the district, and on whose figures the estimate of traffic is based.

128.

H. McLachlan, Esq.

21 Feb., 1896.

128. We are to take it then that the Commissioners are favourably disposed towards this line? Yes.
129. *Mr. Lee.*] The interest on capital expenditure is calculated at 3¼ per cent. In the case of previous lines interest has been calculated at 4 per cent.; why has this difference been made? Three and a quarter per cent. is about the rate at which money is being raised by the Government.
130. But has it not been the custom of the Railway Department to take an all-round calculation at 4 per cent.? No; in their estimate relating to some of the more recent lines they have calculated the rate of interest at 3¼ and 3½ per cent.
131. That is not the rate estimated in the case of the Narrabri to Moree line? That estimate was made some time ago; in more recent reports you will find 3¼ and 3½ per cent.
132. But what change has happened in the money market that you now allow only 3¼ per cent.? It is some time ago since 4 per cent. was allowed in the case of the Moree line. At the present time 3½ per cent. loans are a good deal above par. If the Government were borrowing money now they would get it at about 3¼ per cent.
133. Is not 3¼ per cent. a trifle below the actual amount, even at the present cheap rate for money? I do not think so. Three and a half per cent. is comparatively high, and is equal to a good deal over £100.
134. I want to know in view of all recent recommendations at 4 per cent. why there should be a smaller amount in this case? Recent recommendations have not been at 4 per cent.
135. There has been nothing under 3½ per cent.? I think the last was 3¼. But if you were to add another ¼ per cent. there would only be a total difference of £180 per annum. It would not affect the merits of the proposal.
136. Your reply is that the Commissioners are of opinion that 3¼ per cent. will cover the actual interest? That is about the ruling rate of interest which the colony is now paying.
137. Was the interest in the case of the Jerilderie and Berrigan line calculated at 3½ per cent.? Yes. In the case of one line it was calculated at 3¼ per cent.
138. And was not the amount 3½ per cent. in the case of the Parkes to Condobolin line? I think there was one case where the interest was 3¼ per cent. Still, as I have pointed out, it would only make a total difference of £180.
139. But can you offer any additional reason why the reduction should be made at the present time from 3½ to 3¼ per cent.? In the opinion of the Commissioners 3¼ per cent. is about equal to the average rate which the colony is paying for its loans at the present time.
140. In all your previous estimates of annual cost you have included this item, "Permanent-way, traffic and locomotives." In this estimate I find you have provided for "Cost of maintaining permanent-way, traffic, and locomotive expenses, £2,900." Does this include the whole of the general estimate? Yes.
141. And is based upon the same calculations as those made with regard to previous lines? Yes.
142. Do you know whether the Commissioners recommend this line as a local line or as a section of a probable extension to Barraba and other places? Simply a local line.
143. Without regard to any future extension? No. The Commissioners reported on the merits of the line as a local line in the first instance.
144. You are very clear on that point? Yes.
145. They report upon it, and recommend it as a local line? Yes. Of course it may get through traffic; but they do not report upon it with any idea of an immediate extension. In their report made early in November, they state they would not be prepared to recommend the line from Tamworth to Barraba.
146. *Mr. Clarke.*] You have just stated that it is not intended to extend the line further than Manilla? Not at present. The Commissioners regarded the line as a local one.
147. I suppose you are aware that the road from Tamworth to Manilla is a very good one? It is a good road.
148. Do you think it advisable to construct a railway from Tamworth to Manilla, where the road is so good, when it is not intended to extend the line further to serve the traffic of Moree, Warialda, and Inverell? The question of a further extension of the line is, of course, a matter for future consideration. But the line, as far as Manilla, will serve a large district, and its construction cannot involve any considerable loss to the State. It must help to develop the country, because there is a great deal of good agricultural land in the district, the produce from which would certainly be conveyed by railway at very much lower rates than by teams.
149. But do you think that teams from Barraba with wool and other produce would unload at Manilla, instead of carrying the goods right on to Tamworth at lower rates than those charged by the railway? I do not think so. I think you would get the greater proportion of the goods at Manilla.
150. You are aware that in some parts of the country, teams are competing with the railway, and in some instances, successfully? I am sure they do not carry a very large proportion of the colony's traffic by teams alongside the railway.
151. Still they carry some? A very small quantity, in comparison with the bulk of the traffic that the railways carry.
152. You think that if the railway were extended to Manilla the teamsters would be driven off the road? They would go further back. They would bring the goods to the railway at Manilla, instead of going to Tamworth.
153. I notice from the report that a good deal of the traffic is expected to come down from the Queensland border;—will not the Moree line, which will soon be in working order, take away a portion of the traffic coming down towards Barraba and Manilla from the northern country? No doubt that line would interfere with the distant traffic, but I think the Goods Superintendent in giving his estimate allowed for that. He went right through the district, and I think is pretty sanguine that his estimate will be realised.
154. But if the railway were extended from Moree to Warialda, and from there to Inverell, would not a great deal of the traffic which now comes down to Manilla and Tamworth, go by that route? The traffic estimated to be carried by the proposed railway from Tamworth to Manilla is traffic that will come down to that line even if the railway from Moree were extended as suggested.
155. *Mr. Hassall.*] Was it not originally proposed to construct a line from Tamworth to Barraba? Yes.
156. And the various deputations that waited upon the Commissioners had that object in view? The Commissioners did not receive any deputations in Sydney. They went through the district and met the people at different points. The Manilla people naturally wanted the railway to Manilla, and they did not mind

H. McLachlan, Esq.

21 Feb., 1896.

mind it going through. The Barraba and Bingera people wanted it to go to Barraba with a view to a further extension. The Commissioners at the present time say that they are not prepared to recommend the construction of the railway beyond Manilla.

157. That would lead one to suppose that it is to serve the people out at Barraba and beyond that they would like that line constructed? This line must help the people of that part of the country a little, as it will save them 30 miles travelling by road. The Commissioners in the minute which they forwarded to the Minister on the 30th November, pointed out that the line beyond Manilla would be a most expensive one, that £20,000 would probably be required to construct a bridge, that the country generally was rougher in character, and that the prospect of local traffic was not so good.

158. Are you aware that it is one of the best roads in the colony between Tamworth and Bingera? I believe the road is a good one.

159. Do you know that the railway line would practically be hemmed in between two ranges of mountains—the Nandewar Ranges on the west and the Moonbi Ranges on the east? Yes.

160. Therefore you could not expect any traffic to come from either east or west to feed the railway? To a large extent the traffic would be local, but there would be some traffic taken by the railway, which now passes through Manilla.

161. The Commissioners in their report say they propose to charge local rates. Those local rates, I presume, would be heavier than the ordinary rates charged upon existing lines? They would be the same as the rates charged on existing lines, but they would be heavier proportionately than through rates. If you take 27 miles as against 400 miles, they are the same rates as we apply out of Sydney. For instance, if you went from Sydney to Rooty Hill—nearly the same distance—you would pay the same rate as from Tamworth to Manilla for certain classes.

162. Then what is the meaning of the term "local rates"? A rate always decreases in proportion to the distance. In going from Manilla to Sydney you would pay the ordinary rate for the first 27 miles. Then you would commence again at Tamworth. You would not get the same proportionate reduction as if you were running right through.

163. Does it not seem likely that if local rates are charged on the railway, teams will be used for the carriage of goods instead of the railway, seeing that there is a first-class road available which will be practically shorter in length than the line? That has not been the experience in the case of other extensions. If that were found to happen in regard to certain high-class goods, I have no doubt the Commissioners would be prepared to take steps to counteract it. But it would not be likely to occur in the case of the low-class traffic—the bulk traffic, such as agriculture—the rate for which would be from 3s. to 4s. for that distance. No teamsters could compete with the railway at such a rate as that. If it were found that they were competing in the case of high-class goods, for which the rates would be higher, I daresay the Commissioners might deem it necessary to make some arrangement in order to obviate such a state of things.

164. They would have to do something to attract the traffic? In the case of the line from Temora to Cootamundra, for instance, where the country is level—more level—I think, than this, we have not found that there has been any local competition.

165. There is not a very good road there? It is level country.

166. But not a good road? It may not be quite as hard as the Manilla road.

167. Are you aware that this is one of the best metalled roads in the colony? Still there is a good pull for a team for some little distance out of Tamworth.

168. The Commissioners in their report say, "We should advise the Government that it should be made a *sine qua non* that all the alienated land required for the line should be conveyed to the Government free of any payment for the same or for compensation";—does it seem reasonable to suppose that the owners of valuable land, such as it is said this proposed railway would pass through, would be willing to give their land free without any compensation? Where a man has an estate of some hundreds of acres, and we take, say, a couple of acres for a railway, which is going to improve his property, it is only a fair thing that he should give the land free to the Crown. In their report the Commissioners say that in regard to small allotments of land near Tamworth, they would make an exception. Where an owner would derive no benefit from the railway, I take it that the Government would not, as a matter of equity, insist upon the land being given free. The Commissioners do not arrange for the resumption of land. They simply recommend that the giving of the land should be a general condition.

169. Might not the owners of land 10 or 12 miles from Tamworth say that the railway would not be of any benefit to them, compared with the loss they would sustain by the severance of their land, or by their land being taken away? If you look at the matter in detail, there may appear to be some cases in which it would not be an advantage to the small holder to give his land free. But the details would have to be settled by the Government. The Railway Commissioners could not give an opinion as to what the Government would do with regard to the land. But they think that practically the line should cost nothing with regard to the resumption of land. A similar recommendation was made in the case of the line from Jerilderie to Berrigan, and I understand the land was obtained without any cost to the Crown. I believe that many people who were benefited by the railway helped to obtain land from others who would not be benefited, and the same thing has taken place at Crookwell. The people there are collecting money, in order that the land required for the railway may be given to the State free. They have, I believe, a sum of money in hand for the purpose.

170. *Mr. Black.*] You stated in answer to Mr. Hassall, that the route of the proposed railway is situated between the Moonbi and the Nandewar Ranges;—do you know the distance between those two ranges? No.

171. Manilla, I believe, is situated on a flat? It is situated at the junction of the Namoi.

172. Is the flat as wide as that on which Tamworth is situated? I could not say of my own knowledge.

173. I see by the report that the cultivatable area to be served by the proposed railway is 145,730 acres, and the total area about 781 square miles;—I suppose such an area under favourable conditions—the soil being good as a rule—is sufficient to support a very large population? If the whole of that area were under cultivation it would certainly pay a railway.

174. *Mr. Wright.*] You stated just now, referring to the rate of interest on the capital cost of the railway, that the colony could borrow money at the present time at 3¼ per cent.;—are you aware that the colony has never borrowed money at less than 3½ per cent., and that no loan has ever been obtained at par?

par? That may be so; but is it not fair to look at the present price of New South Wales 3½ per cent. bonds in the English market: to-day they are £106, or something like that.
175. Does the estimate of the cost of the proposed line, namely £72,150, exclusive of land, include station-buildings, loops, sidings, furniture for the stations, weighing accommodation, and all things necessary, except rolling-stock, to make the line a perfect-going railway? I think so.
176. In fact, everything is included in the estimate except the cost of land? So I understand from the Engineer-in-Chief.
177. Though the Commissioners recommend that the bulk of the land be given, they say that they cannot expect that in regard to the land within a few miles of Tamworth the owners will be prepared to hand it over free? Yes.
178. Consequently that land must be paid for? Yes.
179. And whatever is paid for that land must be added to the capital cost of the line? Certainly.
180. And the interest on the cost of the land will have to be added to the estimate? Yes
181. The cost of the permanent-way, traffic and locomotive expenses, is estimated at £2,900, which is practically £100 per mile. Is there any existing line, or any section or portion of a line at present run for that sum? Yes; you will find several lines worked at a less cost, and with a very much larger traffic than is estimated in this case.
182. You say you are not prepared to state what the local charges will be? The local charges will be generally the 1 to 28 miles charges.
183. The local charges between Cobar and Nyngan are not based on that calculation? They have been varied in several ways; but there was a truck rate there.
184. My experience of local charges is that they are simply an arbitrary sum based on nothing? They are based to some extent on the rate-book, and are varied to meet the local conditions. If the Commissioners found that teams were competing with the railway they would, perhaps, make some special charge in regard to a truck load.
185. And your idea is that the local rate mentioned would be the full rate from Tamworth, and beyond that the maximum rate for 27¾ miles? Yes, practically.
186. What traffic do you expect to get over the main line by this extension that you have not got at present? A line going into a grain-growing district must encourage the production of grain. This is an agricultural country, and to have to cart their produce 27 or 30 miles is a big handicap to the producers. If you can induce people to go in for increased cultivation, it must result in increased traffic to the main line.
187. I suppose you are aware that at the present time a great deal of this land is in the hands of a few gentlemen, and is used for pastoral purposes? But these owners may find, as Mr. Greene and others have done, that it is better for them to allow their land to be cultivated.
188. I find, on looking at the merchandise rates in the railway traffic-book, that without local charges the rate for third-class goods, is 16s. 3d. per ton over the length of the proposed railway; for second-class goods, 12s. 10d. per ton; and for first-class goods, 10s. 9d. These charges embrace all goods carried over the railway, except agricultural produce and minerals. Are you aware that at the present time all over New South Wales, the whole of these goods can be carried by team for 10s. per ton? I know there is not at the present time a great deal of competition by teams alongside the railways.
189. Is the estimate which has been placed before the Committee based upon existing rates, or upon a proposed increased rate? An increased rate—not an extension of the Sydney to Tamworth rate.
190. Yet you say that if the Commissioners found there was keen competition by teams, they would have to reduce the rate in order to secure the traffic? I take it they would do that as commercial men.
191. To a certain extent that would destroy your estimate as to the traffic returns? No; the Commissioners propose to charge local rates based on the book. If they found competition was taking place, they would probably make a bulk truck rate. I think Mr. Harper has made some allowance for that in his figures.
192. But if he has not, and the Commissioners have to make that reduction it would affect this estimate would it not? Yes.
193. Is there a possibility of any additional traffic being brought over the main trunk line by the construction of this proposed railway other than what may be produced out of the ground between Tamworth and Manilla? So far as I am concerned I do not know of anything outside of that.
194. This extension would not increase the traffic over the main line, unless it increased the cultivation of grain in the Manilla district? Facilities for carriage will always create increased traffic.
195. All the calculations with regard to traffic, I take it, were prepared by the Goods Superintendent after an inspection of the district? Yes.
196. *Mr. Davies.*] Are the Committee to understand that the recommendation or report of the Commissioners is a conditional one? They say it should be made a condition that the land required should be conveyed free. They think that ought to be done.
197. And that special or local rates should be charged? Yes; that would rest with the Commissioners to a large extent.
198. Can you tell the Committee of any other railway that has been built on similar terms? The Cobar line, the Parkes to Forbes line, the Temora line, and the Berrigan line.
199. Was the Cobar line built on those terms? Yes, with regard to local rates.
200. And with regard to the land being conveyed free? In that case I do not think the land was an important item. It was nearly all Crown land. But the same conditions were made in the case of the Berrigan line.
201. I suppose you are aware that the land through which the proposed line would pass is principally private land? Yes.
202-3. In the event of the property-owners refusing to convey the land free as proposed by the Commissioners, would the Commissioners still adhere to their recommendations that the line should be constructed? The wisdom or policy of constructing the proposed line would, of course, rest with the Government; but the Commissioners think the land should be given free, except in a few cases where the line would not benefit the persons whose land would be required.
204. I would like you, as the mouthpiece of the Commissioners, to tell the Committee whether, in the event of the property-owners refusing to convey the land free the Commissioners would still recommend

that

H. McLachlan, Esq. 21 Feb., 1896.

that the line should be constructed, notwithstanding that with a most liberal estimate as to earnings, and a low rate of interest on the capital cost, there would be an absolute annual loss of £1,200? The condition made by the Commissioners is not an absolute one. They say they would advise the Government that it should be a condition.

205. Have you any knowledge of the character of the country? I have only been over it once.

206. Is not most of it rich and fertile land? So far as I can say, it is good land.

207. And would be expensive to resume? I cannot say. I do not know anything of the value of the land. The Railway Commissioners do not deal with the resumption of land.

208. But I want to get at the actual cost? The Commissioners have no valuation of the cost of the land. The matter of land valuation is dealt with by the Department of Public Works. They know what land is to be taken, and they may have put a value upon it, but that is a question which has not come before the Railway Commissioners.

209. It may cost £200 per mile for all you know? It may cost that.

210. It may cost more? I have no idea what it would cost.

211. So that, instead of the cost of the line being £2,600 per mile, it may be £2,800 per mile? The opinion of the Commissioners is that it should not cost anything for the resumption of land, except as regards some few allotments.

212. Will the Commissioners still persist in recommending the construction of the line, in the event of the landowners refusing to convey their land to the Government free? I think a good deal would depend upon the amount that was involved. If the Government could not get the land free they would, perhaps, ask the Commissioners to consider the matter further. It would depend upon what sum would actually be required. But so far as the Commissioners are concerned they say they would advise the Government that it should be made a condition that the land should be given free.

213. There is not only the taking of the land from the property-owners, but there is the question of severance, which is a still more important matter? I would point out that the line is not to be fenced.

214. But there is nothing to prevent it being fenced hereafter? The Act of Parliament would provide that the line should be unfenced.

215. One serious accident on the line caused by cattle getting in the way might cost as much as the money required to fence the line on both sides? We have other lines unfenced. The Cobar line is unfenced.

216. What is the traffic on that line? Very heavy—heavier than the traffic you would get on this line probably.

217. And you have had no accidents on the Cobar line? No; I do not recollect any accident being reported resulting in considerable damage.

218. But the Cobar line was not built within the estimate of the constructing branch? I am not sure of that. I know some extra expense was caused by heavy floods, either while the line was in progress or shortly afterwards, and the grade was reduced.

219. *Mr. Lee.*] The Commissioners state in their report that they informed certain deputations that waited upon them that they would recommend to the Government that the land through which the proposed line would pass should, with certain exceptions, be given free of cost? Yes.

220. Do you know whether any definite proposal was made to the Commissioners to give the land? I believe one or two of the persons stated there would be no difficulty in getting the land free as regards a considerable portion of the line.

221. But there was nothing beyond a statement? No. As I have said, the Commissioners do not resume the land.

222. I am asking you whether any definite information has been given to the Commissioners as to giving this land? I think not.

223. Do you remember that a similar statement was made to the Commissioners in respect to the Jerilderie to Berrigan line? Yes.

224. And you also remember that when the Committee came to inquire into the matter the land-owners absolutely refused to give the land? I understand that afterwards most of the land required for the railway was given free—I do not know of my own knowledge.

225. You know now that that line has been taken chiefly along the main road? Yes; I know the route was altered.

226. And consequently the necessity for resuming large quantities of land was done away with? Yes.

227. The landowners in that case, although they made representations to the Commissioners that the land would be given, absolutely refused to give it when the time came? Still I believe that the land which has been taken for the line which now exists has been largely given free, though some of the owners may have backed out from the original proposal.

228. Are the Committee to understand that the Commissioners recommend the construction of this line if the owners of land will give the land free? That is their advice.

229. You are aware that it runs through purchased land from beginning to end? Yes.

230. Supposing it were known to the Commissioners that these people would not give the land, do you think that they would recommend its construction? I think they would like to reconsider the question, if they found that the expense of taking the land was going to be a very heavy item. It would depend, I think, upon the particular circumstances of the case.

231. If the line runs through purchased land from beginning to end, the question of land resumption is likely to be an important one? Yes.

232. I want to know, definitely, whether it is in the mind of the Commissioners that this line should only be constructed if the land is given free? That is their opinion—that the land should not cost much.

233. *Mr. Humphery.*] Is it not definitely stated in the minute of the Commissioners, dated 11th November, 1895,—"that it should be a *sine qua non* that all the alienated lands required for the line should be conveyed to the Government free of any payment for the same, or for compensation"? Yes. That is also stated in their former report.

234. Are they still of that opinion? Yes.

235. That unless the land can be obtained free of cost, the railway should not be built? I would not say that, absolutely. They advise the Government that the land should be given free, subject to certain exceptions.

236. This Committee wants the opinion of the Commissioners on that point—do they still adhere to their recommendation? I could not say anything more than is covered by their own statement.

H. McLachlan, Esq. 21 Feb., 1896.

237. You are unable to say definitely whether the Commissioners would recommend the construction of the line in the event of the owners of the land being unwilling to give the land free of cost? I am not.
238. Will you ascertain that? Yes.
239. *Mr. Wright.*] What officer of the Department prepared the estimates of working expenses? They are prepared by the Commissioners. The Commissioners had the officers before them, but the estimate is really that of the Commissioners themselves.
240. They had the officers of the Locomotive Department and of the Traffic Department before them? They would speak to the different officers, and it is the Commissioners' estimate.

John Harper, Esq., Goods Superintendent, Department of Railways, sworn and examined:—

J. Harper, Esq. 21 Feb., 1896.

241. *Chairman.*] What are you? Goods Superintendent, Department of Railways.
242. Have you furnished a report in connection with the proposed line of railway from Tamworth to Manilla? Yes; it is as follows:—

As directed by the Commissioners, I have made careful inquiries as to the probable traffic, &c., on this line of railways. The route traversed by the proposed line may be briefly described as an intermediate one, between the main Northern and North-western lines. It passes through a large area of excellent agricultural and pastoral land, and is comparatively thickly populated by, as a rule, small holders carrying on a system of mixed farming. It also runs parallel with a main road which is at the present time used as the chief route for wool and other traffic from as far north as the Queensland border. The construction of the Moree line will, of course, divert a certain quantity of wool which has hitherto found its way by this route to Tamworth. To as far north as Warialda, however, it is probable that this route will continue to attract the traffic of the district. Whilst wheat has been extensively grown in the past, there is no doubt that the capacity of the areas adjoining the line have scarcely been touched. The rainfall is an excellent one—from 27 to 30 inches per annum. The rates for road carriage to Tamworth range from 4d. to 6d. per bushel, and these have to a large extent tended, in view of low values, to retard any very extensive addition to the areas placed under crop. Last year the area under cultivation was as follows:—

Between Tamworth and Attunga, 2,894 acres, yielding	42,266 bushels.
Attunga and Manilla, 9,217 acres, yielding	156,400 ,,

The population of the district through which the line will pass is as follows:—

Attunga and district	500
Manilla and district	1,300

whilst the district around Barraba and Bingera has a population (a portion of which would use this line) of 3,500.

Live Stock.

The district at present is not generally a fattening one, and consequently the drafts of fat sheep, which would be available for rail carriage, would not be large. There is no doubt, however, that a fair proportion of stock from the fattening districts to the north and north-west of the line would find its way to Barraba. At present this stock is trucked at Breeza, 170 miles from Newcastle, Gunnedah 196 miles, and Tamworth 183 miles. In a good season cattle would, I think, continue to be trucked at these stations as the travelling stock routes to them are more favourable. The following is my estimate of the probable traffic on this line:—

	£	
Goods Traffic.		
Merchandise inwards to Attunga, 10 miles, 80 tons, at 3s. per ton	12	
Do do Manilla and beyond, 2,000 tons, at 8s. per ton	800	
Outwards from Attunga—		
Wool, 140 tons, at 3s. per ton	21	
Wheat, hay, &c., 2,000 tons, at 1s. 3d. per ton	125	
Stock	50	
Outwards from Manilla—		
Wool, 1,300 tons, at 7s. 6d. per ton	488	
General, 600 tons, at 5s. per ton	150	
Wheat, hay, &c., 6,000 tons, at 3s. per ton	900	
Stock, 500 trucks, at 8s. 6d. per truck	212	
		2,758
Passenger Traffic.		
Passengers, 4,000, at 4s.	800	
Horses, parcels, &c.	150	
Mails	336	
		1,286
Grand total		£4,044

243. *Mr. Humphery.*] How did you obtain the material for this report? In the district and from the Government Statistician.
244. Have you the details? Yes; but they are somewhat voluminous. I have the record of every bale of wool that arrived at Tamworth Station.
245. You have gone into the matter exhaustively, and your figures are trustworthy? Yes.
246. In your opinion, will your estimate of traffic be fully realised? Yes.
247. How many bales of wool have you estimated will be carried along the line? Eleven thousand.
248. How many bales do you estimate will come from the country beyond Manilla? The bulk of the wool will come from that country.
249. How far north of Manilla? At the present time the wool is brought to Tamworth from country as far north as the Queensland border. But the construction of the Moree line will alter the present state of things, and several large clips will then go to Moree. In view of this, I have discarded about 6,000 bales of wool which now come to Tamworth, but which I anticipate will go to Moree when the railway is extended there.
250. So that in your estimate you have made full allowance for the traffic that will be diverted to Moree? Yes.
251. You know a line is projected from Moree to Inverell, *via* Warialda;—if that extension is carried out, will it affect your returns? I do not know. I have not gone through the district to see to what extent that may occur.
252. Assuming the line to be constructed between Inverell and Glen Innes, would the construction of that line affect the returns you have just given us? I do not think it would very materially.
253. You think that no portion of the wool would be sent to Inverell? A small portion might be, but not sufficient to materially affect my estimate of traffic.

J. Harper, Esq. 21 Feb., 1896.

254. You think that the earnings of the proposed railway would not be appreciably affected by the construction of a line between Glen Innes and Inverell, or a line between Moree and Inverell? No; I think the rates of carriage on the route from that northern country *via* Manilla would be more favourable than the rates could possibly be either *via* Moree or Inverell, owing to the greater distance of railway carriage by the two latter routes.
255. Have you examined the country north of Manilla as far as Inverell and Warialda? No; not beyond Barraba.
256. Then you have not been as far as Bingera? No, not by that route.
257. Then do you only estimate for traffic that may reach the Manilla line from about Barraba north? No, I go as far north as Warialda, but not inclusive of Warialda.
258. In what way have you made up your estimate? By taking out the individual clips of wool coming in to Tamworth from the north.
259. Then you have assumed that that wool would be carried from Manilla to Tamworth? Yes; at present it is brought into Tamworth. I estimate that 6,000 bales of wool which now come to Tamworth from the country north of Warialda and about there will go to Moree, when the line to that place is completed. But from a point about Bingera, just south of Warialda, the wool will come over the Manilla line.
260. Have you estimated for wool now reaching Tamworth north of Manilla? Yes.
261. That is the only wool you have included in your estimate? That is all.
262. So that whatever may happen with regard to the construction of a line between Moree and Inverell, and if a line should be constructed there, your estimate will not be lessened? I may explain that north of Manilla is a very comprehensive term. It extends at the present time to the Queensland border.
263. But I understand you to say that at the present time the wool is not brought down to Tamworth? Yes, from the Queensland border.
264. What quantity of wool have you ascertained is brought to Tamworth from the country north of Bingera? I could scarcely tell definitely.
265. It is not necessary that you should ascertain what quantity of wool will now reach Manilla that formerly came to Tamworth? I only had in view this projected line. I do not know of the existence of either of the Inverell lines. I simply have to deal with the proposed extension to Manilla, and the extension from Narrabri to Moree.
266. Then in making your estimate you did not take into consideration the possibility of a line being constructed between Moree and Inverell? No.
267. Assuming that there will be a line of railway in that direction, would your estimate be appreciably affected? I do not think it would be affected very much as regards the traffic coming to Manilla. But that is only an opinion, not based on actual investigation.
268. Have you been over the whole of the country shown on the map which gives the holdings within a radius of 20 miles of Manilla? I have been over a great portion of it.
269. Can you say whether the whole of the land is suitable for agriculture? I do not think the whole of it is; but a very large proportion of it is.
270. What is the rainfall? Between 27 and 30 inches.
271. Can you say whether it would cost much to resume the land required for the construction of this railway in the event of the owners not being willing to give it free? Some of the owners there entertain a fictitious notion of the value of their land. Some of them talk about £10 and £15 per acre. I did not see any land I thought worth that much. Other owners would be content with £2 or £3.
272. Are you speaking of the land beyond Tamworth? Land between Tamworth and Manilla—outside the population area of Tamworth.
273. You mean within 20 miles of Tamworth? Over the whole distance of the proposed railway.
274. Have you over-estimated the passenger traffic between Manilla and Tamworth? I do not think so. In addition to the 1,800 people in and about Attunga and Manilla, there is a population beyond of 3,500.
275. How many coaches are running at the present time? Two coaches daily.
276. Have you been careful to obtain statistics before forming your estimate as to the passenger traffic? We base the estimate of passenger traffic upon ascertained returns in the case of existing lines where there is the same population. We take a district where the population is about the same, and which is similar in character, and we ascertain the number of passengers booked to and from that station.
277. Do you look forward to the extension of this line beyond Manilla? I do not at present.
278. Then Manilla would be the terminus in your opinion? Yes.
279. That being so, do you see any prospect of the earnings of the railway covering interest upon the cost of construction, besides working expenses? I think they would. I think larger areas would be placed under wheat than is the case at the present time, and I think also that the district would then carry a great many more sheep. For instance, Mr. John Barling, who owns the Upper Manilla station, since he has gone in extensively for wheat cultivation, has been able to increase his carrying capacity for sheep very materially, and to improve the quality of his stock. In that country where they could not fatten before, they are fattening now on the wheaten straw. My experience, not only in that district, but also in others, is that where you get an agricultural population settled, you immediately begin to find the number of sheep increasing.
280. Do you think it probable that the annual estimated loss of £1,200 on the working of this proposed line would be overtaken within a certain period from the completion of the railway? I have a strong impression that it will be overtaken very shortly.
281. Within what period, making every allowance? I should think within five years at the most.
282. Then it is your opinion that within five years the working expenses and interest on the cost of construction would be covered by the earnings? Yes.
283. And you express that opinion from the experience you have had of similar districts elsewhere? Yes.
284. You think this line should be constructed, having regard to the character of the district, and the probability of its development? Yes, I think so.
285. Do you think it will be necessary to fence the line? I should not think so.
286. Have you travelled over the proposed route? Practically, the route runs alongside the road. At any rate it is within sight of the road the whole way.
287. What is the width of the road? In some places it is 5 chains, in others 2 chains, and in others 3 chains. It varies a good deal in width. The most important portion of the road, where the line runs, is unfortunately only about 2 chains wide. If they could only get another chain in width there they could keep on the road, and avoid a lot of severance. Approaching Manilla, the line goes through a great deal of household property.

J. Harper, Esq.
21 Feb., 1896.

288. *Mr. Lee.*] Town allotments? No; they are outside the township of Manilla. They are situated about 3 or 4 miles from Manilla, where there appears to have been a lot of settlement by small farmers. At that point the road is very narrow.
289. Starting from Tamworth, what is the width of the road, or the reserve for the road? Two or 3 chains.
290. Does it widen? Yes, in some places; it is very irregular.
291. Describe, generally, the varying width? When you get about a mile or three-quarters of a mile outside of Tamworth, the road widens out to about 5 or 6 chains; but there is a reserve there. Then you get into a lane which is only 2 chains wide, and extends for about 2 miles. Then the width of the road increases, and afterwards closes in again. It alters so much in its character that you could not give a general description as to the width.
292. The narrowest portion is about 2 chains? Yes.
293. And for how many miles is the road 2 chains in width? I should think about 7 or 8 miles altogether, probably more. That is simply a guess.
294. Are there any reserves between Manilla and Tamworth? Yes.
295. Has the railway been surveyed over any portion of the road? Yes, it goes through several of the reserves.
296. Is it possible to avoid private lands, and to keep to the road? Mr. Deane, the Engineer-in-Chief, who was with the Commissioners said not. He had the surveyor with him. It seemed to me a pity—and I drew attention to the fact—that the line should pass through these small properties and create severance, and I suggested that it would be desirable if that could be avoided.
297. *Mr. Trickett.*] Would the local rates spoken of be an increase on the ordinary rates? The charge for wheat over that length of 27 miles, assuming it were going through to Sydney, would be about 3d. per ton, that is to say, if the extended rate were charged it would be 3d. a ton over the whole distance.
298. Would there only be the two railway stations? There would be about three unimportant sidings in addition close to the farms.
299. Would this increased rate be of any importance in making up the total gain? No, the total is practically included in the Attunga and Manilla estimates.
300. But would not the increased or local rate have the effect of making the people convey their produce direct into Tamworth? The rate for 28 miles from Manilla to Tamworth would be 3s. a ton, and the people could not possibly carry their goods at that rate or anything like it. From Attunga to Tamworth, a distance of about 11 miles, the rate would be about 1s. 3d. a ton.
301. I have been on several sectional committees inquiring into branch railways, and the evidence has been largely in the direction that when once a dray is loaded up with wheat, it makes very little difference whether it goes 10, 15, or 20 miles;—what do you say to that proposition? As a matter of fact there is absolutely nothing in it. Our experience is that when a line is constructed traffic is not conveyed by road parallel with it.
302. You think that is only an argument used by people to get the line in their own direction? Yes
303. I read in a paper yesterday of some proposal not to fence this line, so that the people could bring their goods direct to it all along the line; what was the idea of that? I do not think that is the object. The reason is, of course, to save the cost of fencing, as was done in the case of the Berrigan and Cobar lines. The people would have to bring their goods into the sidings as in the case of any other section.
304. What kind of country is it? Red-soil country.
305. Is it bad for travelling in wet weather? Yes; it is like all red soil when it gets thoroughly saturated. The main road is a good road, but in the by-roads the ground is soft.
306. Does the good agricultural country start right away from Tamworth? Yes; and goes practically right through.
307. I suppose, for a distance of 7 or 8 miles, the traffic would still continue to go into Tamworth by road? Yes; until you reach Attunga most of the people would continue to use the road, although it is hard to say—probably one or two sidings might have to be provided between Attunga and Tamworth. We generally find, after a line is opened, that the people are anxious to join the railway as quickly as they can.
308. What is the experience of the Department as to these local rates, with regard to their being maintained? They have been generally maintained. The only line on which they have been abandoned so far is the Corowa line, and their abandonment there was brought about by competition from Victoria.
309. *Mr. Wright.*] And on the Cobar line? No; they have not disappeared there yet.
310. *Mr. Trickett.*] What are the lines on which the local rates are maintained? On the Cobar line, the Parkes to Forbes line, and the Temora line. There is a partial local rate on the Cooma line, but that is scarcely worth mentioning, being only on one or two classes of goods.
311. Have not the local rates been discontinued on the Forbes line? No; they are still in operation.
312. You mentioned the Cobar line;—that is working out all right now, is it not? Yes.
313. Paying full interest and expenses? I do not know that it is doing that yet, but it is improving very rapidly.
314. From the figures which you have read, there does not appear to have been much increase in the productiveness of this district since, at any rate, 1892? No; they have been handicapped to a large extent. The low values which obtained during the years succeeding that date, together with the high rates they had to pay, handicapped them very much.
315. It appears from Mr. Alexander's report that in 1891-2 there were 11,000 bales of wool collected in that district? But Mr. Alexander included what I have rejected—all the wool I have given to the Moree line. As a matter of fact, under normal conditions, 19,000 bales of wool come in there. But I estimate that 6,000 bales of this wool will be diverted directly the Moree line is opened.
316. Has the population increased since 1891–2? It has increased in the district beyond Manilla. I do not think it has increased very much about Manilla. The development of Crow Mountain, and one or two other gold-fields, has led to an increase of population.
317. I suppose this may be regarded as a very good agricultural district? Yes.
318. Are they mostly small holders in this locality? Yes; there are a great many selectors. There are several large estates; but one owner at least is adopting the plan that has been followed in Riverina, of letting farms on shares. Mr. Barling, of the Upper Manilla, has been doing this.

J. Harper, Esq. 21 Feb., 1896.

319. Has be been doing it long enough to say whether or not it is a success? No; he has only been doing it for a couple of years, I think.
320. In your examination of the district did you see many abandoned or neglected holdings? No, beyond what you would expect to see where the selections had become the property of the station.
321. I am speaking of ordinary farmers? No.
322. They seem to be all holding on and doing fairly well? Yes; they seem to be progressing.
323. This short line of railway, as far as you can see, is one that stands by itself, is it not? Yes.
324. The country is not served by any other railway at the present time, and not likely to be? No.
325. What is the average yield of wheat per acre in the district? From 16 to 18 bushels.
326. Is that a good average? It is a good general average.
327. The locality to be served by this proposed railway is hemmed in by hills, is it not? Yes; there are two ranges—the Moonbi and the Nandewar—one on the east, the other on the west.
328. The district appears to be a kind of basin, surrounded on the one side by the Nandewar Range, and on the other side by the Moonbi Range, so that whatever traffic may take place is not likely to be a largely-increasing traffic? Except from the fact of the areas being put more extensively into cultivation, and being rendered more productive than at the present time.
329. Although it would not serve a larger area, it would in time serve a larger population by reason of the increased agricultural operations? Yes.
330. But the land is all held by private owners, is it not? All the best of it is.
331. Did you ascertain whether the farms were freehold or leasehold? There are a good many selectors—freeholders.
332. What is the area of the property which the owner is trying to work on the co-operative principle? I think the purchased land is about 12,000 or 14,000 acres in extent. There is a very large area available,
333. Is that agricultural land? A great deal of it is.
334. At the present time it is being used for sheep grazing? Yes.
335. Did you ascertain from this owner whether it would be more remunerative for him to let the land out on the farming principle, than to merely feed sheep on it? Yes, he was satisfied; and when I was there he had 1,700 acres let out for agriculture. He started about two years ago. His conditions were, I think, that the farmers were to clear and fence the land, and he was to get nothing for the first two or three years, and then the rental was to be assessed according to the production of the preceding year.
336. Mr. Deane stated yesterday, positively, that the residents would be pleased to give their land free, in order to have the railway constructed;—have you gone into that question? No.
337. Have you any reason to endorse Mr. Deane's statement? There was no general expression of opinion to that effect when I was with Mr. Deane and the Examiners of Public Works proposals. The people were told that they must consider that aspect of the question.
338. It is apparently quite an open question? It was quite an open question at the time of the Commissioners' visit.
339. What is your opinion of the value per acre of the land required for the railway? I should not think any of it would be worth more than £5 an acre.
340. That would be a liberal price? I think so for agricultural land. Where the line goes through people's backyards, and where severance is created in that way, of course the question of value would be different.
341. Is it mostly cultivated land that the line goes through, or merely grazing land? There is much cultivated land; it is chiefly grazing land.
342. Then there would be few improvements? Yes. The worst place in regard to severance and where most damage would be done, would be approaching Manilla, about 2 or 3 miles.
343. Is this a line of railway that you would recommend? Yes.
344. Although at first it would not be a paying line? Yes.
345. You think from the general character of the country that it would lead to an increase of population and productiveness to such an extent that it would pay within a short space of time? Yes; I think it is splendid agricultural country, comparatively close to big centres of population, and it seems a pity to see it a sheep walk as it is at present. It might produce both more wool and more agricultural produce.
346. Did you ever get any evidence from the residents as to whether they would patronise the railway line if it were constructed? Yes; I saw a great many people in the district in reference to that.
347. Are they keen for a railway themselves? Very keen. I did not meet with a single dissentient in the district.
348. Have not the selectors and farmers mostly got their own teams? No; they themselves do not carry to any extent. The road is one upon which there are a great many carriers. It is a very busy carrying road, and the carriers from out back are generally available after the wool is down. Most of the produce is carried by contract with these carriers.
349. *Mr. Davies.*] You estimate the earnings from goods and live stock at £2,908? Yes.
350. Do you base your calculation upon the whole of the 27¾ miles or do you break the journey? You will see in the details I read about, that there is about £200 credit to Attunga, about 10 miles from Manilla. The rest is from Manilla.
351. Would you get much wool or live stock within 10 miles from Tamworth? I only estimate 700 bales of wool. A station adjoining where the railway station will be gets about 600 bales. The wool-shed would be within a stone's throw from the station.
352. Would not the wool when on the drays or teams go straight into Tamworth? No; the railway station would not be more than 300 yards from the wool-shed.
353. Would not a large proportion of the traffic you have estimated over this 27¾ miles of railway be likely to go by teams? No, I am quite sure that teams could not carry the wool for 7s. 6d. a ton, especially as when they go to Tamworth they have to feed their horses.
354. Is it a fact that on the western and southern lines teams have been competing with the railways? Yes.
355. What is to hinder teams from carrying wool and other merchandise on this route? They would not be able to compete with us at the rates we should charge.
356. But they are successfully competing with the railway on the western, southern, and northern lines? It is not competition at all—it is compulsion with them.
357. Why? In order to get out of the debt of the storekeepers, and to live. They have no alternative. They must do it, even if they only get enough to feed their horses.

358.

J. Harper, Esq. 21 Feb., 1896.

358. Is it not a fact that teamsters can manage to carry freight successfully during the bad times we are passing through, with horse feed and everything at the very highest prices, and compete successfully against railway carriage? As a matter of fact they have not done so. The traffic of the teamsters has fallen off 50 per cent. this year. It is really dying out, with the exception of that between Glen Innes and Grafton.
359. But they have done it? They have done it; but you cannot say successfully. You cannot consider that the carriage of about 4,000 bales of wool by team as against the carriage of 700,000 by railway is successful competition.
360. But the wool which comes to Tamworth at the present time, whether this railway is constructed or not, will still find its way to Tamworth? I am quite sure that no teamster would carry wool 28 miles to Tamworth for 7s. 6d. a ton.
361. Is it not one of the best roads in the Colony? No; not by a long way.
362. Not the road that runs parallel with this surveyed line? There are portions of that road as bad as any road in the Colony I have driven over.
363. Is it not macadamised? No, not the whole way; there are patches which are as good as can be.
364. What has been the amount spent per mile upon the road? I could not say; but I should think that in places very large sums have been spent.
365. Then you do not regard it as one of the best roads in the Colony? No; I consider that the road from Glen Innes to Grafton is infinitely better, and also the road from Tenterfield to Casino—of course, leaving the mountains out of the question.
366. What is the longest distance that teams come in the wool season, from the borders of Queensland to Tamworth? About 200 miles.

WEDNESDAY, 26 FEBRUARY, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. James Hoskins.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Arthur James Stopps, Esq., Acting Chief Draftsman, Department of Lands, sworn, and examined:—

A. J. Stopps, Esq. 26 Feb., 1896

367. *Chairman.*] What office do you hold under the Government? I am Acting Chief Draftsman in the Department of Lands, and I have particular supervision of the Roads Branch.
368. Have you brought with you a map of the road from Tamworth towards Manilla? Yes.
369. Have you a map of that portion of the road marked as portion 34, 612 acres in area, passing from Tamworth? Yes.
370. You will see going away from Tamworth that a road was originally reserved through portions 37, 36, 35, 34, 64, 63, 66, 70, 72, 73, 74, 75 and 34, making a severance in each of those portions? Yes.
371. From the map does it appear that most of that road has been alienated? Yes.
372. At what date was it alienated? In portion 35 the land was alienated in 1872; in portions 64, 65, and 66 the road was sold in August, 1873. With regard to portions 72, 73, 74, 75 and 34, I have no precise data, because the papers relating to those portions were destroyed in the Garden Palace fire, but the road was probably sold in 1872 or 1873.
373. Was the road, which was surveyed directly from Tamworth to Barraba, opened in lieu of the road in those portions? Literally, it was in lieu of that road, but not practically—that is to say, the land did not revert to the owners. That is what we term giving a road in lieu of another one. The new road rendered unnecessary the old reserved road which was sold.
374. In your Department, do you ever take into consideration the possibility of the construction of a railway? I do not think that has been taken into consideration.*
375. Is it not clear that if, in the portions I have enumerated, there had already been a severance, it would be very easy now to make a railway through them? Yes.
376. But having sold the road which caused a severance, it may now become a difficult matter? It may be so.
377. Your Department does not take that into consideration? No; the main consideration in this case was the improvement of the line of road. The new road was a more direct one, and on better ground.
378. You see a road running through portion 35;—has that road been closed? No.
379. Has the road through portion 36 been closed? No.
380. Are the boundary roads to the east of portion 29 open? I have not the information, but probably they are.
381. Is the road through portions 31, 32, 33 and 46 closed? I believe not, but I will inquire into the whole matter, and when I have examined the papers I will furnish the Committee with a sketch, which will enable them to see exactly the state of the roads.

*Note (*on revision*):—It would be more correct to add "except in a partial or fragmentary way, but some Deeds of Grant contain a reservation of such lands as might be required for a railway, &c."

THURSDAY, 27 FEBRUARY, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (CHAIRMAN).

The Hon. FREDERICK THOMAS HUMPHERY.	CHARLES ALFRED LEE, Esq.
The Hon. JOHN DAVIES, C.M.G.	JOHN LIONEL FEGAN, Esq.
The Hon. JAMES HOSKINS.	THOMAS HENRY HASSALL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	GEORGE BLACK, Esq.
HENRY CLARKE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Charles William Jenkins, Esq., A.M. Inst. C.E. Resident Engineer, Department of Public Works, Tamworth, sworn, and examined:—

C. W. Jenkins, Esq., A.M.I.C.E. 27 Feb., 1896.

382. *Chairman.*] Are you the Resident Engineer, Public Works Department, in charge of the Tamworth district? Yes.

383. Are you in charge of the road from Tamworth to Manilla? Yes; I know the line which has been surveyed for the proposed line.

384. *Mr. Trickett.*] Have you before you a sketch plan of the proposed railway line? Yes.

385. Is the railway properly described as a line traversing ground on the west of the main road throughout its course to Manilla, being on the right bank of the Peel River for about 12 miles, passing through Attunga. The formation of the line is fairly level, with slight undulations between Tamworth and Attunga Creek. Between this point and Manilla the line rises to a height of 428 feet, and then falls again 114 feet down to Manilla? Yes; that is a fair general description.

386. Then the proposed railway line is close to the present roadway? Yes; it joins it in many places. Its greatest distance from the road is a little more than half a mile.

387. Is the country suitable for the formation of a railway? Yes, generally. It is a country where a railway can be easily constructed.

388. Near Tamworth is it not somewhat steep? I should call it generally undulating country.

389. Are there any difficult waterways? No; nothing serious. The principal stream is the Attunga Creek.

390. Are they sufficiently small to be covered by wooden railway bridges? Yes; no expensive bridges will be required.

391. How long have you had charge of the line of road from Tamworth to Manilla? About eighteen months. It is described as a first-class road the whole way. Its width varies very considerably; from Tamworth to Attunga it is a chain and a half wide. The road proper is a chain and a half wide all the way to Manilla; but on the upper side of the road there is a travelling stock route, 10 chains wide, adjoining the road; that is from Attunga to mileage 207; that is within 4 miles of Manilla. That travelling stock route adjoins the main road, and is available for road purposes.

392. In what state is the road with regard to being metalled or gravelled? About two-thirds in length of the road between Tamworth and Manilla is metalled. On an average the road is 18 feet wide. It is constructed of blue-metal and gravel—chiefly metal, covered with gravel in some cases. Seventeen miles of the road is in that condition. The remaining third of the road is formed with light earthworks, drains, at the side, and water crossings.

393. Is that portion in good state for traffic? Only in dry weather. It is always passable, but it is heavy in wet weather.

394. Is it like the country out towards Moree? No, it is not to be compared with the black soil country at all.

395. How much money has been spent on this road? There has been a total expenditure of about £29,400 from Tamworth to Manilla.

396. Is the greater part of that for the two-thirds of the road which has been made? Yes, about half of the expenditure is for maintenance, labour, and material. £15,000 has been spent in wages, maintenance, and material for maintenance purposes. £14,400 has been spent in construction. That has been spent since 1864 up to date.

397. In Coghlan's work I find an item giving the value of our roads. What would you estimate to be the present value of this road? It would cost to construct a road of equal service £10,200 for road work, and £3,000 for bridges.

398. Could you make it as good as it is now for £13,200? Yes, that is for 17 miles.

399. What would the remaining 10 miles cost? A road similar to the one already constructed would cost about £900 a mile. That is £9,000 additional.

400. What is the nature of the traffic along the road at present? The heaviest traffic is the wool, and next to that wheat and corn. They are both very heavy items. There is a large amount of light traffic and a daily coach runs each way. About 12,500 vehicles pass over the road annually, exclusive of Sundays, that is coming and going. It is equal to about forty vehicles a day.

401. Does that include two coaches a day? Yes; I obtained that information from two or three monthly records kept by a man engaged on the road.

402. What is the outward destination of the traffic beyond Manilla? The greater part of the wool traffic comes from the country lying beyond Barraba; it goes right up to the Queensland border through Warialda, Goondiwindi, and Boggabilla, then to Myall Creek, towards Inverell from Bingera, and sometimes from Yetman. The wheat traffic is confined chiefly to the country between Barraba and Tamworth.

403. Have you had any conversation with the carriers in the direction of Warialda as to where they would go to when the railway is constructed to Moree? Yes, many of them will go to Moree without question.

404. Is there a good road from Warialda to Moree railway station? No, it is a bad road, a good deal worse than from Warialda to Barraba.

405. Why will they go there? It is a good dry-weather road, and most of the wool traffic occurs during the summer months.

406. Will they go there because it is the nearest point to the railway? Yes; the only time when they might not do so would be in a very dry season.

407.

C.W.Jenkins, Esq., A.M.I.C.E. 27 Feb., 1896.

407. Supposing the line from Moree to Inverell were constructed, would not that pick up the greater part of the traffic coming to Sydney? Yes.
408. Would they not prefer that line, instead of coming down to Manilla? If a line were constructed from Inverell to Moree, it would pick up nearly all the traffic north of Bingera.
409. You say that wheat does not come much beyond Barraba;—is that because wheat is not grown much beyond Barraba? No; there are two mills at Bingera, and they treat the grain.
410. There is a range of hills shown on the plan a little north of Barraba; what is the height of that range? I do not know; but it is a very steep ascent, and it is a barrier to traffic.
411. Does not this line from Tamworth to Manilla seem to be very much confined to the Nandewar Range on the one side, and the Moonbi Range on the other? Yes; I think the line will be purely a local one.
412. Is it a line capable of very great extension beyond Barraba? No; I think the proposal to take a railway from Inverell to Moree will limit the value of the line now under consideration very much.
413. What do you think of the desirableness of a line from Manilla to Bingera, or Inverell? I do not think there would be sufficient traffic to justify the construction of a line from Manilla to Bingera.
414. What is the nature of the country beyond Manilla? It is very much rougher after you pass Manilla, and it would be much more expensive to construct a railway.
415. Would there not be a very expensive bridge? Yes; over the Namoi.
416. What is the character of the country from Manilla to Bingera? A great deal of it is poor country—hilly and mineral.
417. Do you think a line could be constructed from Tamworth to Attunga on the public road, and from Attunga to Manilla, either on the road, or on the travelling stock-route? No.
418. For what reason? I think the expense of earth-works would be too great. The line would be very much heavier.
419. Would not the roadway, being 1½ chain, be wide enough for the railway? I hardly think so.
420. Then you think that from Tamworth to Attunga the road would not be wide enough for a railway? I think not.
421. Knowing the line surveyed by the railway officials, do you think that that is the easiest line to adopt? Yes; looking at it generally I think it is in the best possible position.
422. Would this line have to be fenced? I do not think that would be necessary.
423. What is the nature of the occupancy of the land between Tamworth and Manilla, on either side of the projected line? From Tamworth to Attunga it consists of small farmers, growing wheat; from Attunga to within about 10 miles of Manilla, you pass through the Attunga Station, or Burdekin Estate; from that point to Manilla you come into small farms again. I should like to qualify my statement as to the general nature of the country from Manilla to Bingera. From Manilla to the Upper Manilla, a distance of about 8 miles, the country is good.
424. Would there be a good deal of land which would have to be taken in constructing this line, and the owners compensated? Yes.
425. Have you had any conversation with the owners of property through which the line is proposed to be taken, with regard to compensation? I have had conversations with them; but I never touched on the question of compensation. The only matter touched upon was the statement that they will not give the land. They will not give the land between Attunga and Tamworth.
426. Have you heard any expression of opinion with regard to the land between Attunga and Manilla? No.
427. How much of the railway line do you think would be used for the purpose of bringing traffic on to the main line? I think the first 12 miles of the proposed line would not be used by the adjoining farmers. They would bring their produce right into the town.
428. Do you think that beyond that point they would bring their produce by the railway? Yes. In conversation with one of the property holders beyond Manilla, he told me a movement was on foot there to subscribe sufficient funds to purchase the land from those who objected to give it for the railway, and he thought the property-owners to the north of Manilla would easily subscribe sufficient funds for that purpose.
429. Opponents of a proposed railway often advance the argument that once a team is loaded it does not matter whether they travel 12, 15, or 20 miles; do you think that would apply in this case? I think the limit might be fixed at 12 miles. For anything over that I think the people would prefer to use the railway.
430. What is now the rate of carriage from Manilla to Tamworth for wool and wheat? I think it is £1 a ton.
431. Would not the railway rates be very much less for that distance? Yes.
432. Do you consider that this is a desirable line to construct? I think it would be desirable and payable as a local line, and might be constructed.
433. The railway without land resumption will cost £2,600 a mile, so that it can be hardly classed as a light railway, and the Commissioners estimate that at the outset the line will be run at a loss of £1,200 a year;—with these facts before you, do you still think it would be a desirable railway? We would save about £350 a year in the maintenance of the road when the railway is constructed. That would reduce the loss to £900.
434. But if you save that in the maintenance of the main road, would you not very likely have to spend the same amount on branch roads to feed the railway? Yes; but eventually we will have to do that to feed the road.
435. And from a road you would get no revenue at all? Yes; and besides that a railway would induce considerable additional cultivation at Manilla where there is land available.
436. Is not that land mostly held by private owners? Yes.
437. Have you heard whether it is probable the owners would let that land in small farms? I have not heard them say so, but very likely they would do so. In my opinion, it would be a much better investment for them. I think the portions of the land lying between the road and the railway might be resumed and sold in small farms without any considerable loss. The country is such that it could be easily cut up into small cultivation paddocks. I refer to the land between the present line of road and the proposed railway. I think that would be preferable to moving the road so as to join the railway, or moving the railway on to the road.
438. Is that all good land for cultivation? Nine-tenths of it is.

C.W.Jenkins, Esq., A.M.I.C.E. 27 Feb., 1896.

439. Would not that be a new idea in railway construction? I do not know; but I think it would be much more economical than paying directly for severance.
440. Instead of resuming the land that is actually necessary for the purposes of the railway, you would recommend the resumption of the whole of the land between the road and the railway, with a view to selling it again? Yes.
441. *Mr. Lee.*] Are you of opinion that the railway could not be taken along the road, because the embankments would be too heavy? Yes.
442. What are the ordinary grades on the road? The ruling grade is 1 in 15.
443. Would that mean that there are steeper grades occasionally? Yes, for a very short length.
444. How many of these steep grades are on the road between Tamworth and Manilla? Not more than a quarter of a mile; 1 in 15 is adopted as the limit in any new works we construct.
445. I suppose a great deal of the road would be only 1 in 50? Yes; a great deal is practically level.
446. Are there any particularly steep pinches on the road? Yes; some that would entail heavy earthworks for the railway. There are only three such points, and one of these might be overcome.
447. Would it not be possible to work the line around those three places by a small resumption of land, supposing the railway were taken over the road or alongside of it? I have considered that aspect of the case very closely, and I think it would involve a great deal more expense to bring the road and railway together than to pay for the land that is severed. The nature of the country immediately adjoining the road would necessitate very much heavier works for a railway to obtain the grades that are now proposed.
448. Do you think that the easiest route, from a railway construction point of view, has been selected? Yes.
449. Are there not some portions of that road which could be utilised for railway purposes without difficulty? Yes; unquestionably.
450. Which are they? Starting from Tamworth, the first mile from the railway station brings the line on to the road. From that point to mileage 191 the railway and the road do not join. I do not think they could possibly be brought together between those two points. The objections are that at mileage 185, 187, and 191 there are high points in the country which the railway would have to get through if brought up to join the road at considerable expense. To obtain a proper gradient it is necessary to go round those points with a railway. The reason why the road cannot be brought down to the railway there is that we would have to abandon work of the value of about £600 a mile, and reconstruct the road to suit the local traffic, at a cost of about £500 per mile. From 191 to 192⅕, it appears to me the railway and the road might be made to adjoin, with the exception of 20 chains; that portion of the line passes through the village of Attunga, and not through private property. I think the greater part of it is Crown land—a few allotments may have been sold;—but in any case the value of the land would be very inconsiderable. From 192⅕ to 195 the railway and the road are parallel, apparently about half a chain separating them. There is no reason why they should not absolutely adjoin there. From 195 to 200 the railway and the road again separate. The road rises over high ground; but the railway contours around it. The objection to shifting the railway is that this high ground would necessitate heavy works.
451. If the road were brought to the railway at that point, what would be the cost? About £500 per mile, and we would have to abandon works worth about £600 per mile. From 200 miles to 201¼ the railway seems to be separated from the road by a width of 2 chains. I think they might join there—practically they do join. From 201¼ to 207 the road and railway again separate. The reason for that is the high ground, and the same reasons apply there. The cost of reconstruction would be about the same, and the cost of the work to be abandoned would not reach more than £300 per mile for that length. From 207 to 209¼ the railway and the road join. That is 1⅕ mile from Manilla.
452. Then you are now practically into Manilla, and it would not matter whether you ran along the road or not? Yes.
453. Which would be the more practicable—to remove the road to the railway, or the railway to the road? To move the road to the railway.
454. In those cases where circumstances would permit? Yes, when they are separated by any considerable distance. Where they join it would be necessary for us to increase the width of the road.
455. If that were adopted, and half a chain of your road were used for railway purposes, would not that leave sufficient for ordinary dray traffic? If only half a chain were taken for railway purposes, the remaining chain would be sufficient for traffic.
456. Supposing a line were not constructed between Moree and Inverell, and keeping in view the present extension to Moree, what would be the state of affairs with regard to the traffic? I think that all the traffic from Warialda, and from all points from the north-west and west of Warialda, would go to Moree. That would embrace Goondiwindi and Mungundi and all the intervening country, but would hardly include Coollatti.
457. Where were you stationed before? At Inverell.
458. And you are very familiar with the country and stations about there, and the routes taken by station produce for many years? Yes.
459. If what you have stated is correct, and if this railway is constructed to Manilla, where would the traffic come from? I think Bingera would be the most northerly point from which traffic would be derived by the Manilla railway. Any traffic to the north of Bingera would assuredly go to Moree.
460. That would to a certain extent make this railway a local line? Yes; the traffic area will be very much restricted. It would come from the country up the Namoi to a point 15 miles above Manilla, thence northerly till you strike the Gwydir, down the Gwydir to Bingera, from Bingera across to the Horton River, westward along the Horton River to its source in the Nandewar Range, and from the Nandewar Range to Mount Lindsay, and from Mount Lindsay along the Nandewar Range.
461. At present the traffic by way of Manilla to Tamworth is very great? Yes.
462. Is not the bulk of that traffic from the outside country north of Warialda? No; I should say that half of the wool traffic comes from the north of Bingera.
463. And the return loading about the same? Yes.
464. When the extension to Moree is opened, all that traffic will go to Moree? Yes; I will be very much surprised if that is not the case.
465. Therefore the present traffic passing through Manilla to Tamworth will be somewhat delusive from a railway point of view? It will be considerably less than the present road traffic.

C. W. Jenkins, Esq., A.M.I.C.E. 27 Feb., 1896.

466. If the present road traffic is depended upon, will it not be altogether misleading? Yes, if it is used as a basis.
467. *Mr. Hassall.*] If there be no extension of the railway from Moree to Inverell, will not the great bulk of the wool traffic between the Gwydir and the Queensland border gravitate to Moree? Yes; most of them will send their wool that way.
468. Therefore, the wool traffic to Tamworth by this railway will be confined to a limited area? Yes.
469. Do you not think that the whole of the traffic which will be commanded by the proposed railway will be confined to Myall Creek, Reedy Creek, Bangate, Terry-hi-hi, Rocky Creek, Cobbadah, Piedmont, Bingera, Mount Lindsay, and around Barraba? Yes; but the Terry-hi-hi traffic would go to the Moree line. That is on the down grade; whereas coming into Manilla we would have some very heavy country to travel. At present the Terry-hi-hi wool goes to Narrabri, so does the Rocky Creek. From the north-east of Warialda we would get the wool by way of Manilla.
470. In all probability the great bulk of the wool traffic from the great pastoral country between the Gwydir and the MacIntyre would go to Moree? Yes.
471. Then you are confined practically to an area from Cobbadah, 12 miles beyond Barraba? Yes; I think the extreme northern limit of traffic would be Bingera.
472. From the nature of the country you would be restricted to an area of about 20 miles east of Bingera? Yes.
473. The wheat grown in that district is dealt with in Bingera itself, is it not? Yes.
474. It is converted into flour at Bingera, and the bulk distributed out west? Yes.
475. There are no great pastoral properties in the vicinity of Bingera except Myall Creek and Bangate? Yes.
476. Coming south you are confined on the eastern side by a continuation of the Moonbi Ranges, and on the other side by the Nandewar Range? Yes.
477. When you are coming from Bingera towards Tamworth you see a range on each side? Yes; it is very marked.
478. Until you get to Cobbadah you get no great amount of traffic? Yes.
479. On the eastern side there is nothing? Yes.
480. On the western side you have the road coming in from Horton? Yes.
481. The existing road is a first-class one? Yes; it is a good natural road where it has not been formed.
482. Do you not think that the farmers who do their own carrying would continue, even if the railway were made, to bring their produce into Tamworth in order to get their back loading? I would not be prepared to say that.
483. Are you not aware that Cohen and Levy have a very large establishment in Tamworth, and do an enormous business throughout the north-western district? Yes.
484. Does it not stand to reason that when the farmers bring their produce to Tamworth to deliver it to Cohen and Levy, they would take the goods they require at Tamworth as back loading? Yes.
485. Are they likely to discharge their produce at Manilla, and wait for the back loading to be sent there from Tamworth? I think the construction of the railway would prevent a great many of these farmers from continuing to be their own carriers. I think they would apply their horse-power to other purposes, and send their loading by regular carriers.
486. Are you not aware that the majority of the settlers combine carrying with farming in order to make a living? Yes.
487. When these people carry the produce from the back country would it not be as easy for them to carry it on to Tamworth as to stop at Manilla? I am not prepared to say that.
488. Are there any difficulties on the road between Manilla and Tamworth? It is a very good traffic road.
489. Along that road are there not very good reserves for camping? Yes.
490. Do you not think that with these advantages the people themselves would care very little whether you constructed a railway from Tamworth to Manilla or not? I think the men engaged in carrying would not be affected very much by the railway. They would not care very much whether it was constructed or not.
491. I suppose the property-owners would like to have the railway, because it will enhance the value of the property? Yes; the large land-owners beyond Manilla would be glad to have a railway.
492. Do you think it would be desirable to spend £70,000 in constructing a railway from Tamworth to Manilla only, when there is already a good road there? I am inclined to think the railway would be a profitable investment, and a convenience to a large number of settlers.
493. Are you not aware that there will be an estimated loss of £1,200 per annum on this railway? Yes; but I think that loss will be made up in the course of a few years. It would be at once reduced by £350 a year in the maintenance of the road.
494. Will not the road have to be kept in a good state of repair? Yes; but at very much less cost when the heavy traffic is removed.
495. But if the wool teams compete you will have the heavy traffic, and you will require to keep the road in first-class repair? Yes; if the railway cannot successfully compete with the road, I should say decidedly do not construct it.
496. What is the value of the land through which the railway will pass? I am hardly qualified to give an opinion; but I should say generally it is worth about £5 an acre for farming purposes.
497. Do you think that the owners will give it away for nothing? I understand that they will not give it away for nothing between Tamworth and Attunga, and beyond that I think it is doubtful.
498. *Mr. Black.*] Does not Manilla lie in a flat between the Moonbi and Nandewar Ranges? Yes, comparatively flat.
499. What is the width of that flat? Twenty-five miles, and most of it would be suitable for farming purposes.
500. Is the flat as wide as the one in which Tamworth lies? Yes, probably.
501. Is the soil as good as it is in the vicinity of Tamworth? Yes.
502. I find that the land alienated amounts to 545,383 acres; of this land, 10,889 acres are under cultivation;—do you think that the area of cultivation on the alienated land would be greatly increased if a railway were made to Manilla? Yes.

503.

C. W. Jenkins, Esq., A.M.I.C.E. 27 Feb., 1896.

503. I find that the unalienated land amounts to 449,805 acres;—is there any great portion of that fit for cultivation? Not a large proportion. I think the bulk of it is unsuitable for agriculture. It is all suitable for grazing. It consists of stony ridges and poor soil.
504. You have stated that the bulk of the wheat grown around Bingera is treated locally in the flour-mills;—is that due to the fact that the quantity produced is only equal to the consumption in the district around Bingera? Yes.
505. If by means of a railway the wheat grown around Bingera could be more readily conveyed to market, do you not think that there would be increased production there? Yes, decidedly.
506. Do you think it would be advisable to extend the survey as far as Barraba? No; the contour of the country would make it too expensive, and it would be necessary to build a costly bridge. There would not be sufficient traffic to justify the heavy expense.
507. Do you not think that the construction of the line would bring traffic by opening up the country? Not in that particular case.
508. Are you inclined to recommend the construction of this proposed railway as a feeder to the main line? Yes, as far as Manilla.
509. Not with a view to further extension? No.
510. Do you think that within a reasonable period it would be made self-supporting? Yes.

Arthur James Stopps, Esq., Acting Chief Draftsman, Department of Lands, sworn, and further examined:—

A. J. Stopps, Esq. 27 Feb., 1896.

511. *Chairman.*] Have you some further information to give the Committee? I find there has been only one road alienated beyond those I mentioned yesterday, and I have now shown that road on the map. It is the road through portion 70, in the parish of Tamworth.
512. Do all the other roads shown as boundary roads and otherwise on the map still stand good? Yes, they are still open. In portions 121, 111, and 110, in the parish of Burdekin, there are areas set apart for railway purposes: also in portions 24 and 40, in the parish of Cuerindi. I hand in the following return:—

Roads Branch, 22 February, 1896.

RETURN of Unnecessary Roads sold in the Parishes of Tamworth and Woolomol, County of Inglis.

Date of sale.	Parish.	Area of Road. a.	r.	p.	Portion through which Road passes.	To whom sold.	Remarks.
6 June, 1872, Misc. 72-3,505	Tamworth	1	0	32	35	F. H. Rushbrook	These roads are nearly parallel to the main road from Tamworth to Manilla.
1 Aug., 1873, Misc. 73-4,062	do	6	1	17	64, 65, 66	P. J. Coghlan	
12 Mar., 1894, Aln. 94-2,435	do	3	1	26	70	A. Paton	
Papers destroyed in Garden Palace fire	do	8	3	31	34	J. Dowe	
	Woolomol	6	3	8	72, 73, 74, 75	J. Dowe	

Road Tamworth to Manilla, confirmed 1 March, 1867.

TUESDAY, 17 *MARCH*, 1896.

Present:—

THOMAS THOMSON EWING, ESQ. (CHAIRMAN).

The Hon. FREDERICK THOMAS HUMPHERY.
The Hon. JOHN DAVIES, C.M.G.
The Hon. JAMES HOSKINS.
The Hon. CHARLES JAMES ROBERTS, C.M.G.
The Hon. WILLIAM JOSEPH TRICKETT.
HENRY CLARKE, Esq.
CHARLES ALFRED LEE, Esq.
JOHN LIONEL FEGAN, Esq.
THOMAS HENRY HASSALL, Esq.
GEORGE BLACK, Esq.
FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

John Harper, Esq., Goods Superintendent, Department of Railways, sworn, and further examined:—

J. Harper, Esq. 17 Mar., 1896.

513. *Chairman.*] Since you were last before the Committee, have you been in Moree, Inverell, and Warialda? Yes.
514. Do you believe that the estimate you have placed before the Committee will be fully realised? Yes.
515. Is it your opinion that any traffic west or north of the Nandewar Range would either make Narrabri or Moree, or a line from Moree to Inverell? I would not like to say that.
516. Where would the traffic split between Moree and Warialda? The traffic I have estimated is at a point not inclusive of Warialda, but south of Warialda from Bingera, and probably a few miles to the north of Bingera. I have estimated north of Bingera, inclusive of Bingera, and south of Warialda. I have not included a single bale of wool or a single ton of goods north of that line.
517. If the line from Moree to Inverell were built the traffic from Bingera could not make Manilla, supposing there were a railway to Manilla also? I should be rather disposed to think it would.
518. Even if there were a railway a few miles to the north? It is 43 miles.
519. What is the distance from Bingera to Warialda? Twenty-six miles.
520. Your evidence is simply this,—that the Manilla-Tamworth extension can rest upon its own foundation without taking into consideration any traffic north of Bingera, west of the Nandewar Range, or east of the Moonbi Range? Yes; no matter whether an extension is made to Inverell, from Glen Innes, or from Moree, the Bingera traffic would still drift to Manilla.
521. You believe the people would rather pay road carriage from Bingera to Manilla, and from there to Sydney or Newcastle by rail, than pay road carriage from Bingera to Warialda, and round by Moree to Sydney? That is in regard to the bulk of the traffic which would earn anything like money. I daresay that low grade traffic, such as wheat and other produce, would probably go by the shortest route.

522.

J. Harper, Esq. 17 Mar., 1896

522. The Nandewar Range lies between Bingera and Barraba? Yes.
523. Do you know the height of that range? I think it rises 1,100 feet from Bingera, and falls about 500 feet to Barraba—that is as far as the railway survey is concerned.
524. What height is Manilla above the sea? I could not say; at all events the line rises from Bingera 1,100 feet and falls 500 feet. Between Barraba and Manilla the country is very much broken.
525. Could you say whether a line from Tamworth to Manilla *via* Barraba or Inverell is likely to be a portion of the policy of this country in the immediate future? I could not say so, unless the authorities are guilty of the unwisdom which has been done in the past of building this Northern line. But I think that that is the way the main northern line should have gone in the first instance. I think it would be a most unwise thing to build a parallel line through there.
526. Therefore you believe the railway from Tamworth to Manilla should be considered without any reference to any railway construction north of Bingera? Yes; I think that should be dismissed from consideration altogether.
527. You believe it is not complicated by the question of a Moree-Inverell or a Glen Innes extension? I think not. I think a railway line could be provided which would suit the intermediate district, but I say that if that line were to be built to-morrow, that is the way it should be built; but the main northern line having been built it is folly to consider it.
528. Do you think it is improbable that there will be an extension to Inverell or to Warialda? I think it would be an unwise policy to follow.
529. *Mr. Hassall.*] You do not think it would be a profitable speculation? I do not think it would.
530. *Mr. Lee.*] If the line were made to Moree the question is whether the traffic west of that would come by any line which might be extended to Manilla? I do not think you could get any practicable country. I take it that the country now feels it has spent too much already in heavy railways.
531. *Chairman.*] Do you put it in this way, "My reasons for believing it improbable that there will be an extension beyond Manilla, Inverell, or Warialda, are first of all that it will be a very expensive line; secondly, that it will not be likely to pick up any of the traffic from the Moree district, certainly not west of Moree, and a good deal of the traffic from the north must always make to Moree"? Yes, either to Moree or down to Tamworth. As I pointed out the other day, the Moree extension will divert a lot of the northern traffic, but still it will continue to come down that road, which is essentially a favourable one for carriers to travel on.
532. Is there any other reason except that the Moree extension limits the area, and the character of the country precludes cheaper construction? Of course the Moree line is under construction now, and I take it that it will tap the country both to the north-west and the south-east. It will take a lot of the traffic which has hitherto come by road. The traffic estimated as coming into Manilla practically is traffic as between Warialda and Manilla. They have a comparatively good road.
533. Supposing there is eventually a connection from Glen Innes, Inverell, and Warialda to Moree? It would not affect my estimate one bit.
534. *Mr. Wright.*] Have you any knowledge of the local traffic between Tamworth and the Manilla district? Not of the purely local traffic. We have taken Manilla and the district beyond it.
535. As far as Barraba, for instance? Yes, that is included in the return; Bingera is included as well.
536. But you have no return of the actual traffic between Tamworth and Manilla and its environs? Yes, we have—that is if you embrace Bingera.
537. Do you know what wheat is produced in the Manilla and Upper Manilla and Bingera district? Including Attunga, 198,000 bushels.
538. The Secretary of Railways in his evidence speaks of a large additional traffic the proposed line will bring to the main line; as a matter of fact, has any of the wheat from the Manilla district ever come to Sydney? No; it has principally found its consumption in Tamworth.
539. So that the wheat will bring no accession to the main line? No; but, of course, the wheat estimate does not represent very much altogether.
540. It has been stated that the construction of this line would largely augment the traffic of the main line? It is possible that if they had railway communication the producers might find buyers other than the Tamworth millers.
541. Do you think they would send the wheat away if it could be locally consumed? It would be a matter of price. They might get a better price of millers elsewhere—say at Glen Innes, for instance.
542. Is it likely when they do not grow more than is sufficient for their own requirements anything will come down the main line to Sydney? I do not think so. If they can consume it all at Tamworth it is likely they will do so.
543. So that this assumption as to the augmentation of traffic to the main line does not exist so far as wheat is concerned? Not so far as the present production is concerned; but with the increased production, which we hope will take place owing to railway communication, there might be a surplus.
544. If I am credibly informed that all the traffic of Manilla and Upper Manilla is at present done by one waggon and two drays, would you believe that information correct? No; I would unhesitatingly say it is incorrect.
545. And the wheat traffic is done with less than twenty teams? Twenty teams would carry a lot of wheat spread over a year.
546. I am informed on good authority that a waggon carrying 5 tons goes through to Manilla from Tamworth in ten hours? I dare say it would in good weather.
547. And the same authority tells me that the whole of the traffic is confined to a single waggon and two drays? That is on one side. I may state that between Manilla and Tamworth I passed fifteen teams, and, as you know, it is the dead of the year just now. Of these fifteen teams, five were loaded from well-known Tamworth dealers' stores. Each of them carried about 4 tons. They were going to Manilla, or beyond it.
548. I want to find out what is the justification for building a railway if the purely local traffic is so small, because you will get the traffic beyond whether the railway is built or not? It would not increase at all events. We look to a district like that to produce far more than it is doing now.
549. Do you think, for instance, the production of wheat around Bingera would increase very much if the railway were built? No; I think the area for wheat in the vicinity of Bingera is very limited.
550. Then I suppose for the first 12 or 15 miles you would not expect to get traffic? I think we should pick it up at Attunga.

J. Harper, Esq. 17 Mar., 1896.

551. Do you think a farmer growing wheat within 12 miles of the town in which he sells it would be likely to carry it 2 or 3 miles to a railway, and then pay for its carriage to the town? I think so, for the simple reason that a large amount of his wheat would be bought on the farm. Of course the whole of the traffic, as far as wheat is concerned, would be very little. I only give the value of the wheat traffic at Attunga at £125; I think we would realise that by chaff and hay. I may mention, incidentally, that we had for three months an average of sixty or seventy truck loads of chaff per week from Jerilderie. It had come in from Berrigan.
552. In answer to the Chairman, you stated that if there were railway communication across the country between Moree and Glen Innes, or between Moree and Inverell, the traffic about Warialda would still come to Manilla? I think the Warialda traffic would come by Moree, but I fancy the Bingera traffic would always come, that is if the survey north of the Gwydir were carried through Warialda. I do not think an extension from Glen Innes to Inverell or from Moree to Inverell would affect Bingera.
553. I suppose you include Talune and stations like that in your estimate of the wool coming through Manilla? No.
554. Myall Creek, for instance? I discarded that altogether. I also discarded Bective. I have not accepted stations even adjoining Warialda.
555. But still you say there would only be a decrease of 6,000 bales? I left my figures doubtful in view of a possible extension. I have not gone any way north of Warialda.
556. If the returns from the Tamworth station-master show that, instead of losing 6,000 bales you will lose 16,000 bales, what then? I do not place much reliance generally on the returns given by our station-masters; I generally verify these matters myself.
557. Do you think there will only be a decrease of 6,000 bales through the extension of the Moree line? That is what I estimate it at.
558. And yet you think if the Moree line is still further extended through Warialda to Glen Innes it will not affect the proposed line much more? I do not think so.
559. Looking at the proposed line as a purely local line, and not contemplating its extension beyond Manilla, do you think the Committee would be justified in recommending its construction? Yes.
560. You think the present local traffic, with the through traffic which is likely to gravitate towards it, and the possible addition to traffic from the construction of the line, will bring in a revenue sufficient to justify the country in going to the expense of constructing the line? Yes.
561. Whilst you were in the district, did any of the local land proprietors notify that they were likely to throw their land open and go in for the cultivation of wheat? About the only large landowner affected by the line is Mr. Barling. Of course there is Mr. Rogers, of Attunga.
562. And there are two other large landowners on the river? There is Mr. Baldwin; but I think these people do not speak of matters over which they have no control. I think, however, they would all like settlement.
563. *Mr. Black.*] If a Sectional Committee were to visit the route of the proposed line, do you think they could form any opinion as to its advisableness or otherwise, unless they went beyond Manilla, say right through to Barraba, Bingera, and, possibly, to Moree? I should think it would be a desirable thing to go to Barraba and Bingera, and it would also be necessary to have a look at the Horton River.
564. You do not think any railway proposed, or likely to be made, would interfere with the success of the Tamworth to Manilla line? I should not think so.
565. There is no possibility of any line likely to be made diverting any of the traffic which you think likely to be carried by the proposed line? Not any of the traffic I have estimated.
566. *Mr. Hoskins.*] Did you hear any of the people say that they were so anxious to have a line constructed from Tamworth to Manilla that they would cheerfully give the land required for the railway to the Government? Whatever they may have felt, they did not say it to me. On the other hand, I did not hear anything against it. I pointed out to the people I met at Manilla that, in order to expedite matters and to save time, they should make up their minds as to what they were going to do, either to give it or not to give it; but some of the principal landowners have no voice in the matter.
567. Then you have not heard any expressed opinion from the people of the locality to the effect that they would be prepared to give the land for the railway? Most of the settlers there are anxious to get the railway, and they are most anxious that the land should be given, but a great many of them do not own any land.
568. Therefore it would be necessary to get the consent of the mortgagee? Yes, that is the position.
569. *Mr. Lee.*] Do you say that those who are willing to give land have their land in the hands of mortgagees? It was no part of my business to ask them what they were going to do, but I advised them to make up their minds what they were going to do before the Sectional Committee visited them.
570. But you did not hear any responsible landowner say they were so anxious to get the railway that they would be prepared to give the land? I do not know that you could find any responsible landowners there. You cannot find them on the land, at all events.
571. Are there any selectors there? Yes; but the line does not go through many selectors' properties.
572. The proposed line goes through a good deal of the Attunga run? Yes.
573. Are there many farmers on the Attunga run? The resumed area there has been a good deal cut up, but most of the selections have been acquired by the run.
574. I suppose the people who have farms on the Attunga run are mainly tenants of the lessees of the run? I think the number on Attunga is very limited. But the Sectional Committee will not meet a fairer man, nor one who will give them better information, than Mr. Rogers, the owner of the run.
575. If there are not many people engaged in farming on the Attunga run at the present time there are not many people there waiting to take advantage of the construction of the line? I think if the Attunga run were thrown open for the purpose of agricultural settlement, a great deal of it would be jumped at and taken up.
576. Thrown open by whom—by the Government? No; by the owners of it.
577. The last time you were here you told the Committee that a good deal of traffic came down the road through Bingera, Barraba, and Manilla from the northern part of the Colony;—do you believe if a railway is constructed from Moree to Inverell that that line will take all that northern traffic away? I have discarded that in my estimate. I have not gone beyond Warialda for a single bale of wool.

578. You believe all the Warialda wool will still come down to Manilla? Yes. I have discarded everything doubtful. I have discarded Myall Creek, with 78,000 sheep upon it; Bangheet, with 17,000 sheep; Pallal and Bective. J. Harper, Esq. 17 Mar., 1896.

579. Although you have discarded 6,000 bales of wool, do not the large stations north and west of Moree in the aggregate turn out more than that amount? They did not last year. From Talune we had 1,700 bales, and from Yallaroy 1,300.

580. But there are stations still further north, near the Queensland border? Yes; but I selected all those which came into Tamworth.

581. At all events, if the Moree-Inverell railway is constructed, it naturally will divert a large quantity of trade which now comes down the northern road by Manilla to Tamworth? The same with regard to the merchandise traffic. I have only included that traffic which will legitimately belong to that line. My estimate is based on the local traffic which I think will always find its way to Manilla.

582. Is it not very rough country from Manilla, by Barraba, to Bingera gold-fields and Bingera township? Yes; but there is not much production. The settlement is principally along the Peel and Minilla Rivers. When you get further north you get into good country again.

583. Are there many people settled and engaged in producing anything from the soil, excepting gold, about Barraba and Bingera? Yes, there is a good deal of farming. Moree is almost exclusively supplied with flour from the Bingera district.

584. Have you reported on other lines that have been before the Committee? Yes.

585. Can you name any line which has been constructed since you reported upon it, and which is now working? I reported on the Cootamundra to Temora line, the Nyngan to Cobar line, and the Kiama to Nowra line.

586. Are you in a position to show that any figures you have placed before the Committee on previous occasions with reference to proposed lines have been borne out since those lines have been open for traffic? I do not know that I have ever submitted any set of figures to the Committee before, unless in connection with the Nyngan to Cobar line. I reported against that line; but I am happy to say it has been a success nevertheless. I may say that most of my estimates have been of a negative character. Many lines have not been built, because I did not think they would pay. My evidence was of a negative character in connection with the Cobar line; but owing to the development of the copper-mines it has paid better than any one expected it would.

587. Your evidence in regard to the line under consideration is of a favourable character? Yes.

588. And you arrive at your conclusions after personal inspection and investigation? Yes.

589. You are aware that the Commissioners estimate the line will show a loss of some £1,200 a year? Yes.

590. I would like to know why you suppose that this line will pay in the future if it is going to show a loss at starting, and is to be a local line? There is one little item which occurs to me, which shows how many different items have been left out of calculation altogether. There is a copper-mine at Barraba, in regard to which a syndicate has been formed; if it opens, that mine alone will pay half the interest on the capital cost. Of course I look to the future development which always follows the construction of a railway.

591. But, apart from the copper-mine, do you think there is sufficient land to carry an agricultural population? I think so. The land carries, on an average, one sheep to two and a half acres, and there is no reason why it should not carry one sheep to every acre. I fancy they will be able to carry cross-bred sheep there very well. I may say that farming there is in the most primitive condition.

592. Do you think it is fair to assume that the construction of that line will bring additional traffic to the main line? Yes.

593. To a degree which it does not feel at present? Yes.

594. When you were before us on a previous occasion I asked you one or two questions with reference to the dray road—as to whether it would be possible to take the road to the line or bring the line to the road; have you looked into that matter? Yes. I do not think you will get over the difficulty. It is an engineering question. You will find the sidlings coming down there on the stock route. Where you could possibly get the line on the road it is 2 chains wide; but in other places, where the line is away from the road, it slopes down so that you would have to go into rather expensive cuttings to get anything like a grade.

595. Have you any idea whether the district suffers very much in dry weather? No; it suffers more from the effect of cold. Most of the sheep lost in that district this year were lost after shearing, from the cold storms. They did not lose many sheep in that district from drought.

596. *Mr. Fegan.*] How long have the copper-mines at Barraba been working? Ten or twelve years intermittently.

597. Were not 20 tons of copper obtained from there last month? It may be so, but I discarded that item altogether. Whilst I was in the district I could not see much prospect of carting copper that distance, but I think it is possible that it will be done.

598. I suppose you know they are trying to float the concern into a company? Yes.

599. And they have had very good results from the copper? If it is half as good as it is reported to be, I think we shall have a very big traffic.

600. And then what may seem to be a deficit will be wiped out entirely? Yes.

601. And the line will be made to pay at once? Yes, if the mine can be made to produce copper in sufficient quantities.

602. And the opening of the mine will bring a greater population there, and the passenger traffic will be greater than you have estimated? Yes.

603. Do you know how many men are employed copper-mining there now? When I was there there were ten or twelve.

604. Would you be surprised to hear that there are now nearer forty? Yes; I did not make any further inquiries the last time I was there.

605. Then the development of the copper-mine will add a new item of revenue to the line? Yes.

TUESDAY, 31 *MARCH*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

James Burt, Esq., Draftsman in charge of the Information Bureau, Department of Lands, sworn and examined:—

J. Burt, Esq. 31 Mar., 1896.

606. *Chairman.*] What maps do you produce? I have brought a map showing the position of the pastoral holdings situated between Tamworth and Manilla, and also a map of the town of Tamworth.

607. Have you a map of West Tamworth? No; that is a private township.

TUESDAY, 12 *MAY*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery	Charles Alfred Lee, Esq.
The Hon Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
Henry Clarke, Esq.	George Black, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq. 12 May, 1896.

608. *Chairman.*] Have you any definite information with regard to the cost of a line turning off at West Tamworth and passing on the southern side of the Peel to Attunga? Yes.

609. Have you any statement to make as to the cost and grades of such a line? Yes; the grades would be about equal to the grades on the other line. The route is a very good one. Although there is the river to cross, the cost per mile works out at less than the cost per mile of the original route. At the same time it must be remembered that the new route is a mile longer than the original route. Consequently the total cost of the line taken by the new route would be about £1,000 more than the cost of the proposed line taken along the original route.

610. *Mr. Black.*] You are referring merely to the cost of construction? Yes; my remarks have nothing to do with the cost of resumption.

611. *Chairman.*] What grades can you get on the new route? Pretty well anything you like.

612. Can you get a grade of 1 in 100? Yes.

613. What was your grade on the original route from Tamworth to Attunga? On that route you could get anything you liked. The line as marked out had grades of 1 in 50 and 1 in 66; but there is no reason why, without any increase of earthworks, by altering the location, an easier grade should not be got. The difficult portion is between Attunga and Manilla.

614. If you made the grade on the original route 1 in 100, the cost would be considerable, would it not? You could get any grade you liked without increasing the cost. As shown on the section, the new route has not a ruling grade of 1 in 100. It starts with a grade of 1 in 85, and then there are several grades of 1 in 80 before you get to the Peel River, but a grade of 1 in 100 is easily obtainable.

615. Is 1 in 80 the worst grade on the route? Yes. After you cross the Peel River, if you make a direct connection with the original route, you have a grade of 1 in 50; but that can be altered, Mr. Wilkins has assured me. Whatever grades are wanted at this point can be obtained, though he says that it will lengthen the line to put in easier ones, but I have not taken any of that lengthening into account in making the estimate.

616. What would the grades be on the other route? You could reckon on getting the same grades there without any material increase of distance. If you keep at the foot of the spurs you can get any grade you like.

617. *Mr. Black.*] The conditions are somewhat different at the point of junction? Yes; but flattening the grades does not necessitate any lengthening of the line there.

618. Would not your estimate be reduced by reason of the fact that at the proposed junction at West Tamworth no earthworks would be required? Earthworks will be required, but everything has already been taken into consideration in the estimate which I have made. The earthworks on the commencement of the original route from Tamworth are heavy, but the estimate makes provision for the better grades which I referred to in my previous evidence. As against these heavy earthworks we have on the new route the necessity of crossing the Peel River, and one thing balances the other. The cost of the line from Tamworth to Attunga on the original route is estimated at £31,209, or £2,379 per mile, the length of the line being 13 miles 9 chains. The cost of the new route is estimated at £32,229, or £2,262 per mile, the length being 14 miles 20 chains. That shows a difference of £100 a mile in favour of the new route.

619. *Chairman.*] The cost of the earthworks on the original route is pretty well equalised by the extra length on the new route, and the necesssity for a bridge? Yes.

620.

H. Deane, Esq.
12 May, 1896.

620. How much higher is East Tamworth than West Tamworth? About 14 feet.
621. What distance is it from West Tamworth to the crossing of the Peel, on the surveyed route? A little over 13 miles.
622. The country from West Tamworth to the crossing of the Peel is possibly as suitable for cheap railway construction as any in the colony? You could not find anything much better.
623. But on the other side of the river, or at any rate for the first 2 miles, the country is by no means so good? For the first mile and a half, it is not so good; but when you get beyond the crossing of the main road it becomes very easy, and about as good as that on the other side of the river. The route from West Tamworth to Attunga would be a very easy one if you could leave out the Peel River bridge, and the other route would be very easy if you could take out the first portion passed through before leaving the town. Taking everything into consideration the two routes are very similar. If there is anything in favour of either it is perhaps in favour of the West Tamworth line.
624. The new route is shown on the map in blue? Yes.
625. Would it be possible to take the line further south with a grade of 1 in 60? I do not think it could be done with advantage.
626. Would you express an opinion with regard to it? I can only express the opinion that Mr. Wilkins has given to me. I have not been over the new line, so I can only tell you what he states. I examined him very carefully with regard to the matter. The further away you get from the river the more undulating the country becomes.
627. Could you get through that undulating country? If you go far back I do not think you could get through with a grade of 1 in 60, or even 1 in 50. You will find some very steep pinches on the road.
628. You give it as your opinion that you could not bring the line very much further south than it is shown on the map? Yes.
629. If the new route is adopted, must it be located where the blue line is shown on the map? That would seem to be the best place for it.
630. The hills slope very easily on the southern side? I daresay you could take the line a little further back, and still get a 1 in 60 grade, but I could not say how far back without having levels taken. If you go further back you would get a worse line. There would be slight cuttings and banks to increase the cost, as the watercourses would be more defined. The cheapest position for the line is that adopted by Mr. Wilkins. If the Peel River Company want the line put a little further back I daresay it could be managed; but at the present moment it is impossible to state to what extent, because this has only been a flying survey.
631. How do the waterways on the new route compare with those on the original route? The cost of providing for waterways on the new route is less.
632. Proceeding from Attunga, and following approximately the line which you surveyed until you pass through the gap near Chlori, you say that the railway could be kept on the west side of Green Hatch Creek without any greater cost than would be incurred by adopting the route as you have it? Yes. I looked into that matter when I went over the route with Mr. Jamieson in November last.
633. I suppose you are aware that for the last 10 miles, as you approach Manilla, the line goes adjacent to and pretty well through every house in its vicinity? Yes; but I do not think anything of that, because this is only a trial survey, and it can easily be shifted.
634. When did you abandon the idea of taking the line out on the west side of Green Hatch Creek? I have not abandoned the idea. The survey had been made when I went through the country, and I looked upon it as a most promising deviation. However, we had this line already laid out and the Book of Reference prepared, and if I had altered the line the Book of Reference would have been wrong.
635. Your opinion with regard to the line from West Tamworth is that it would be an easy one to construct, although about a mile longer than the proposed line? Yes.
636. What has been the cost of the Berrigan line? I do not know at the present time.
637. Do you know what the tender was? The tender shows only the minimum cost. There are places where the line must be raised. I fixed the quantities for the contractors to tender upon as low as possible, but they will be increased during the execution of the line.
638. Will that line cost £2,400 a mile? It will not cost much more than the estimate, though that estimate was made on the assumption that the Railway Commissioners would supply us, as promised, with a large quantity of second-hand material, which they have not been able to do. If there should be an increase of cost on this account it is clear that I am not responsible.
639. What did your estimate you would save by getting these second-hand rails? I really do not remember.
640. Would it be £200 a mile? I do not think it would be that.
641. Supposing it were £200 a mile, a reasonable estimate for the Berrigan line would be £2,300 a mile? Yes.
642. What has been the cost of the Condobolin line? The estimate is £2,100 a mile, I think.
643. Of the Moree line? I think that was about £2,400 a mile, including bridges.
644. How does the country between West Tamworth and Manilla compare with the country in these other places? It is more undulating.
645. Not the first 13 miles of it? No, but beyond that. The heaviest part is between Attunga and Manilla, going over the hill.
646. You estimate that this line will cost £200 a mile more than any of the other lines that have been named? Yes.
647. It is perfectly clear that the extra cost is not incurred in connection with the first half of the line, so that we may reason that the latter half will cost £400 a mile more than any of the lines that have been named? You must not forget that there are no stations to be provided for on the first half of the line.
648. I am leaving the cost of stations out of count? In ascertaining the cost per mile, you must take into account the cost of stations.
649. What, then, is the total cost of railway stations and buildings? £137 per mile for buildings, &c., and £144 per mile for earthworks sidings, and so on, making a total cost of £281 per mile.
650. Taking £2,300 as the minimum cost per mile of a line of this character, the latter half of the proposed line will cost close on £600 per mile more than the average? On the first section the station arrangements will only cost about £121 per mile, as against £281 per mile on the whole line. If you double

H. Deane, Esq.

12 May, 1896.

double the difference between these amounts, you get £320, which accounts for a good part of the £600 which you mention, and leaves only about £280 a mile to be accounted for by extra earthworks, waterways, &c.

651. If the Berrigan, Condobolin, and Moree lines cost only £2,300 or £2,400 a mile, £2,600 seems a pretty heavy estimate for this line? There is no very heavy work on the Condobolin line.

652. The country there is as bad as this? I do not think so, and I have been all over it. I do not think any part of it is anything like so lumpy as the hill on the other side of Attunga.

653. What do you estimate the cost of the new line to be? £2,534 a mile. If you deduct from that £281 per mile for station arrangements, and £54 per mile for water supply, you get the cost of the line itself as £2,199 per mile.

654. That is the cost of the running road? It is a little more than the cost of the running road. It includes signals, telegraphs, engineering, and contingencies.

655. *Mr. Humphery.*] Should you not deduct £50 for the 15 per cent. on the £335? Yes; that would make the cost £2,149 per mile for the roadway, discarding the cost of station works, &c. The cost of the line from the junction to Attunga is £2,262 per mile. Stations, &c., cost about £138 per mile. Increasing that by about £20 for the percentage you get £158 per mile, which, deducted from the total cost, leaves £2,104 per mile.

656. *Chairman.*] Have you taken into consideration whether the item £97 per mile for level-crossings, cattle stops, and fencing could not be materially reduced? I have, and for the deviation I provide only £49 per mile for that work. I think everything has been taken into consideration. My estimate for the line from West Tamworth through the Peel River Company's land to the junction with the trial survey at 195 miles 74·82 chains—length, 14 miles 20 chains—is as follows:—

TAMWORTH TO MANILLA.

WEST TAMWORTH, through Peel River Company's land, to junction with trial survey at 195 miles 74·82 chains; length, 14 miles 20 chains.

Description.	Estimated cost.	Average per mile.
	£ s. d.	£
Earthworks	3,089 0 0	217
Timber Bridges, &c.	1,213 0 0	85
Timber Bridge over Peel River	4,000 0 0	281
Level-crossings, &c.	696 0 0	49
Permanent-way materials	9,917 13 6	696
Platelaying, &c.	7,082 15 6	497
Stations	1,720 0 0	121
Signals	237 0 0	17
Miscellaneous	278 0 0	19
	28,233 9 0	....
Engineering and contingencies	3,995 11 0	280
Total cost.....£	32,229 0 0	2,262
From Junction to Manilla—14 miles 50 chains	40,941 0 0	3,121
Total cost, West Tamworth to Manilla—28 miles 70 chains.....£	73,170 0 0	2,534

You will see that all the items here have been reduced as compared with my original estimate.

657. *Mr. Humphery.*] How do you expect such a large saving in regard to station arrangements? Because there are no terminal works. The figures I have just read are for the 14 miles 20 chains.

658. *Chairman.*] You estimate the cost of the rest of the line to Manilla as pretty much the same as the cost of your surveyed line? Yes.

659. Supposing it were thought desirable to keep the cost of the proposed line within £2,400, how could you do it? I do not think it could be done. It would be most inadvisable to attempt it.

660. You could not save it in earthworks? I do not think you could save very much, even by adopting steeper grades over the hills. You could not make this line as cheap as the other lines you have mentioned, without making it much worse. The conditions are different, and a larger expenditure is required.

661. You have provided for an overbridge where the railway crosses O'Connell-street, Tamworth? Yes.

662. How far beneath the level of the road would the railroad be? About 13 feet, as shown on the section.

663. Then it would be necessary to raise the level of the road about 4 feet at this place? Yes.

664. Would not that interfere with the street? We could so arrange it that there would be no interference at all. The rails could be dropped a little.

665. Did you take the matter into consideration when estimating the cost of the earthworks? Yes.

666. *Mr. Roberts.*] I understand that the cost of the new line and the further portion of the old line to Manilla will be £2,534 per mile;—could you not save £134 per mile with a view to bringing down the cost to £2,400 per mile, the cost of the Condobolin line? The cost of that line was £2,300, I think. I do not see how it could be done.

667. Is it usual to allow 15 per cent. for engineering and contingencies? It would be in a case like this.

668. Why is this made an exceptional case? I do not think it is exceptional. I have cut down some estimates to 5 per cent. for contingencies, and 5 per cent. for engineering, but those figures are very low. Even a rise of 10s. per ton in the price of rails would run you close into 5 per cent. on the cost of the line.

669. You could not see your way to make this item 10 per cent.? I should not like to do it.

670. *Mr. Fegan.*] Although a bridge over the Peel River would be necessary, do you not think that the proposed bridge will be better than the original route, because the grades will not be quite so heavy? I do not think there will be any difference.

671. How many chains in the old survey will give a grade of 1 in 100? I think we can reduce the grades to a minimum. The only bad part of that line is the piece running out of Tamworth. That is rather ugly, but after you cross the main road the country is easy.

672.

H. Deane, Esq.

12 May, 1896.

672. What would be the difference, taking the cost of resumption in the one case and of the bridge in the other, between the cost of the two lines? I do not know. I do not know what the cost of the resumptions would be.
673. On the original survey you have a very heavy cutting between Tamworth East and the municipal boundary? Yes; the earthworks are heavy.
674. Further on you have an embankment? Yes.
675. Do you not think that more will be spent upon the cutting and the embankment than upon the bridge? No; it has all been very carefully reckoned out. You can get earthworks done very cheaply now.
676. We have had no guarantee that a number of people on the old route would give their land for railway purposes? I know nothing about that.
677. The new route will be cheaper, because of the land being given to it? If the Peel River Company give the land to the Government, and the people on the other route will not give their land, that will make a difference? Yes; it will make a great difference.
678. Do you think that £10,000 for resumptions and earthworks will get you out of Tamworth on the old route? I have not gone into the question of the cost of resumptions; but at present values the land cannot be worth very much. I should not think it would cost as much as you say.
679. When there are buildings on land it makes a very great deal of difference? I think we have been very careful to avoid buildings on that portion of the line running out of Tamworth.
680. The new route will offer more inducements to traffic than the old route, because it gives the Sommerton people a better opportunity to use the railway? I should not think it would help them very much. I think they will go into Tamworth.
681. Although the line will go $1\frac{3}{4}$ miles nearer to them? They have a good road into Tamworth, and they might prefer that.
682. You think that the adoption of the new route would not induce those people to use the railway? Not unless a good road was made towards the line.
683. Will the roads be kept in as good order after the railway is made as they are in now? My experience is that the roads are kept in better order after a railway is made.
684. Do you think that that is a good way of doing business? I would rather not make any criticisms; but I think there is a good deal to be said for the practice generally. It brings traffic to the railway.
685. *Mr. Lee.*] Having had an opportunity of seeing the flying survey of this proposed deviation, do you favour the deviation? I think it is a very good line.
686. From a professional point of view you raise no objection to it? I do not raise the slightest objection to it. I think that it is a very good line.
687. It will answer every purpose that the original line was intended to answer? Well, the instructions in the first place were to survey a line from East Tamworth. One advantage that the deviation has over the proposed route is that the land traversed by it will be obtained free of cost from the Peel River Company; but I do not know that that is an advantage which could have been anticipated.
688. If you had received instructions to survey a line from West Tamworth, do you think it probable that you would have selected a route somewhere near the suggested deviation? I think it is almost certain that I should.
689. You therefore offer no objection to the deviation? No.
690. In the aggregate it would not increase the cost of construction? It will add £1,000 to the total cost, though the cost per mile will be less.
691. *Mr. Humphery.*] How will the earnings of the railway be affected if we start from West Tamworth instead of from East Tamworth? I do not think the estimated earnings will be affected at all. The Railway Commissioners propose that there shall only be three stations on the line—at Attunga, at Green Hatch, and at Manilla, which would be the same in either case.
692. Then, putting the question of compensation aside, the question of traffic would not weigh with you? No.
693. When you say that the deviation would cost £1,000 more than the original line, you assume that the owners on the East Tamworth side would give their land without compensation? I make that statement on the assumption either that you get the land on both routes without cost, or that the cost of resumption in both cases is the same.
694. If the West Tamworth line may be constructed without compensating land-owners, while on the East Tamworth route compensation must be paid, which do you think is the more desirable? If it were simply a matter of cost, I should say the new line. The new line would undoubtedly be the cheaper, taking compensation into consideration.
695. Therefore, unless the owners of land along the original route are prepared to give up their land free of cost, you think the West Tamworth route would be the cheaper? Yes.
696. And, as far as you can see, should be preferred? I think it would answer all purposes.
697. May we assume that if you were free to select a route, and you found that on one line compensation would have to be paid, while on the other there would be practically no compensation, would you select the West Tamworth route? Yes; if it were a question of joining on to the main line wherever it cost the least, I would choose the West Tamworth route.
698. The question of compensation did not enter into your consideration when you had the line from East Tamworth to Manilla surveyed? No; we had to take the line from East Tamworth along the best route, independently of the cost of land.
699. Would the West Tamworth line be as convenient for traffic as the original route? I think so, if the Railway Commissioners make the fares the same. The distance from East Tamworth to Manilla will be increased 2 miles by the proposed line.
700. But what about the distance between Manilla and Sydney? It would be the same by either route.
701. *Chairman.*] I find that $12\frac{1}{2}$ per cent. was allowed for contingencies on the Bega-Eden line, and 5 per cent. on the Berrigan line; here you allow 15 per cent.? That includes engineering.
702. What have you allowed for contingencies alone? From 8 to 10 per cent. The cost of engineering and supervision runs from 5 to 6 per cent.
703. Roughly, then, we can say—contingencies, 10 per cent.? Yes.

H. Deane, Esq. 12 May, 1896.

704. Have you anything further to add? I hand in a detailed estimate of the portion of the original route from Tamworth to Attunga for comparison:—

TAMWORTH TO MANILLA.

ESTIMATE of Trial Line from Tamworth at 182 miles 65·51 chains to 195 miles 74·82 chains, being the point where line from West Tamworth joins; length, 13 miles 9·31 chains.

Description.	Estimated cost.	Average per mile.
	£ s. d.	£
Earthworks	4,571 0 0	349
Box drains, culverts, and timber bridges	2,261 10 0	172
Overbridge	500 0 0	38
Level crossings, &c.	1,745 0 0	133
Permanent-way materials	9,136 0 0	696
Plate-laying, ballasting, and sleepers	6,516 0 0	497
Stations	1,720 0 0	131
Signals	237 0 0	19
Miscellaneous	278 0 0	21
	26,964 10 0	.....
Engineering and contingencies, 15 per cent. nearly	4,244 10 0	323
Total cost £	31,209 0 0	2,379
From Junction to Manilla, 14 miles 50 chains	40,941 0 0	3,121
Total cost, Tamworth to Manilla—27 miles 60 chains £	72,150 0 0	2,600

THURSDAY, 18 *JUNE*, 1896.

Present:—

THOMAS THOMSON EWING, ESQ. (CHAIRMAN.)

The Hon. FREDERICK THOMAS HUMPHERY.
The Hon. CHARLES JAMES ROBERTS, C.M.G.
The Hon. WILLIAM JOSEPH TRICKETT.
HENRY CLARKE, Esq.
CHARLES ALFRED LEE, Esq.
JOHN LIONEL FEGAN, Esq.
THOMAS HENRY HASSALL, Esq.
GEORGE BLACK, Esq.
FRANCIS AUGUSTUS WRIGHT, Esq.
FRANK FARNELL, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

George Lawrence Wilkins, Esq., Surveyor, Railway Construction Branch, Department of Public Works, sworn, and examined:—

G.L. Wilkins, Esq. 18 June, 1896.

705. *Chairman.*] Have you had an opportunity of seeing the evidence of the Engineer-in-Chief for Railway Construction with regard to the alternative route of the proposed line from Tamworth to Manilla? Yes, I have read it.
706. And you recently made further inquiries into the matter? Yes.
707. Do they substantiate the opinions previously formed? Yes; there are no essential alterations.
708. It is possible, turning off from West Tamworth, to go through the Peel River Company's estate, and then approximately parallel to the road from Tamworth to Manilla through Attunga, passing down the western side of Green Hatch Creek, and over the junction of that creek with the river joining the original Departmental survey near the travelling stock reserve? Yes, with grades of 1 in 66.
709. That route would be as good as the Departmental survey? Yes.
710. The part of the line which passes through the Peel River Company's estate will be extremely easy? Yes.
711. You can get pretty much what you want there? Anything you require.
712. Will it be possible to take the line at the back of the stock-yards? Yes.
713. And not to approach within half a mile of the creek except near the village of Attunga? On an average the line will be fully half a mile from the creek; but in one or two places it may be less than that distance.
714. No great alteration has been made in the estimate of the cost of the bridge over the Peel below the junction of Attunga Creek? No.
715. Is it necessary to alter the evidence which has already been given on this matter? No; I do not think that there is anything requiring alteration.
716. *Mr. Fegan.*] Is there anything new in connection with your last survey? No. The estimates in connection with the last survey have not yet been prepared; but there will be no material difference.
717. *Mr. Lee.*] Is there any increase in the price of the bridge? There will be no alteration.
718. Will any deviation of the main roads be rendered necessary? No; the line does not interfere with the main roads, or with the travelling stock routes.
719. *Chairman.*] Is there any interference with improvements, that is, of a serious nature? The line goes through a few cultivated paddocks, but that is almost unavoidable in the case of every line.
720. Will the alternative route meet all public purposes as well as the line originally surveyed by the Department? I do not think that so good a station will be obtained on the new route at the Somerton Road.
721. The people will have to go off the road to get to the railway? Yes; the line will be nearly a mile from the road.
722. Does this new survey vary from the route which met with the approval of the Sectional Committee? No.
723. For the first few miles out of Tamworth the railway is not likely to be used by the people in the vicinity, because they will be able to drive into Tamworth? That is so.

724. The first important station will be in the reserve beyond Attunga Creek? Yes. G. L. Wilkins, Esq.
725. There the new survey and the original line are almost adjoining? They are not very far apart.
726. From that point the new survey is not far from the Government line until you get to Klori? It coincides with the Government line for the next 8 miles after leaving Attunga Creek. 18 June, 1896.
727. With regard to the accessibility of the station near Klori, people to the east will have from half a mile to a mile further to travel if the new route is adopted? Yes.
728. And people to the west will be benefited by having a shorter distance to travel? Yes.
729. But inasmuch as there are more people to the east than to the west the new route is not so convenient at this point as the original route? No.
730. Do you regard the extra distance as a serious matter to the people on the east of the line? No; because all the traffic of the line from that direction will have to come a considerable distance, and half a mile will make very little difference to it.
731. The distance from Manilla to Sydney will be the same whichever route is adopted? No; the deviation will increase the distance to Sydney by a mile.
732. *Mr. Wright.*] And how much will the distance between Tamworth and Manilla be increased? The distance from Manilla to Tamworth East will be increased by $2\frac{3}{4}$ miles.
733. *Mr. Humphery.*] What is the length of the Departmental route? About 27 miles 60 chains.
734. And of the new survey? Twenty-nine miles 55 chains.
735. *Chairman.*] Have you had an opportunity of ascertaining the nature of the improvements along the Departmental line? Yes.
736. Within the Municipality of Tamworth the resumption of these improvements would be rather costly? I think it would be very costly.
737. Can you give us an opinion as to what the cost of resumption will be? I have heard evidence as to the actual cost of resumption.
738. Outside the Municipality of Tamworth, and to the south of Attunga run, would the resumptions be considerable? They would be very considerable.
739. And from Attunga to Manilla? There is a number of small holdings there.
740. Can you express an opinion as to what it would cost to resume them? Well, I have not gone into the matter myself. I might add that although Mr. Deane estimated the length of the new survey at 28 miles 70 chains, it is now necessary to add 65 chains to that.
741. *Mr. Humphery.*] Where will that addition to the length be rendered necessary? In the last 8 miles.
742. *Chairman.*] You do not go right into Manilla? Not into the settlement, but the line goes into the township.
743. Does not that cut off 30 chains from the length of the line? The line stops at the same place as it did when Mr. Deane estimated its length at 28 miles 70 chains.
744. In point of fact, you have three-quarters of a mile more to come down after you get into Klori? Yes, that is the case.
745. *Mr. Fegan.*] With a much better grade? No; the grade remains the same.
746. *Mr. Lee.*] Does this increased mileage occur from the point where you break off at West Tamworth, or does it include the distance between Tamworth and West Tamworth? It does not include the distance between Tamworth and West Tamworth.
747. *Chairman.*] It means 1 mile further for traffic going to Sydney that has been trucked at Manilla? Yes.
748. Estimating the cost of resumptions at £15,000, and the saving on the line at £1,900, and deducting the cost of 2 extra miles—£5,000—there is a net balance in favour of the new survey of nearly £12,000? Yes; but I know nothing of the cost of resumptions.

WEDNESDAY, 2 SEPTEMBER, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
The Hon. Daniel O'Connor.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

The Hon. Philip Gidley King, M.L.C., sworn, and examined:—

749. *Chairman.*] You represent the Peel River Land and Mineral Company? Yes. The Hon. P. G. King, M.L.C.
750. You have had various communications from the Committee with regard to a deviation of the line from Tamworth to Manilla through the property of your company on the south side or left bank of the Peel River? Yes; through yourself as Chairman. 2 Sept., 1896.
751. The route of the line was marked on a plan submitted to you? Yes.
752. What the Committee would like to know, first of all, is, will your company give the land required for the railway? The company are not prepared to give the land.
753. You understand that the line will not be fenced? I understand that that is the proposition.
754. What is the attitude of your company with regard to this proposal? The attitude is this: The company wish to meet the Government in a friendly spirit, and have no intention of offering any serious opposition to the line, although they see no advantage whatever in its construction.
755. They do not think that it would be of any benefit to them? No; rather the contrary.
756. From West Tamworth railway station, until the proposed line passes out of the company's property, near Attunga Creek, is about 13 miles? A little over.
757. To have a railway going through your property for about 13 miles will give you no benefit? We cannot see that it will.

The Hon. P. G. King, M.L.C.

2 Sept., 1896.

758. Would you say that a man living 13 miles from a railway was not benefited by having a line brought to his own door? The land 13 miles from Tamworth is hardly worth taking up. That within 6 miles is valuable land.

759. On general principles, would you grant that a man situated 13 miles from a railway was benefited by having the line brought to his own door? Yes, to a certain extent he would be.

760. Will you explain to the Committee how it is that the company's property would not be benefited by the construction of the proposed line? My experience is that persons living within a certain distance of a railway station do not use the railway to get to that station.

761. What distance would that be? People living within 6 or 7 miles of a town would always prefer to go there in their own vehicles, and to send their own carts in than to go to the expense of the train journey.

762. Are you prepared to allow that, 6 miles from Tamworth, the railway will be of some small benefit to your property? I quite admit that beyond that distance the line might be of slight advantage to persons living on the land.

763. What do you consider the value of your land? For the first 6 miles I consider that it is worth £6 an acre. That is to say, if an allotment ran back from the railway-line to the river, I would reckon the whole of it equal in value to £6 an acre.

764. Therefore, about £576 would have to be paid for land resumptions if 2 chains were required for the railway for the first 6 miles? Yes.

765. What would be the value of the land in the next 7 miles? I put that at 30s. an acre.

766. *Mr. Wright.*] Is it inferior land? It is hard dry soil, very full of grass-seed. You can hardly keep a beast there in dry weather

767. Is it unfit for agriculture? Quite, except in little garden-patches.

768. *Chairman.*] Again, allowing 2 chains as the width of the railway resumption, we should have to pay £168 for the land along that length, or £744 for the whole of the land resumed? That estimate appears to be correct.

769. You understand that the line is not to be fenced? I hope to convince the Committee that it ought to be fenced. The line will be in the immediate neighbourhood of a populous town, and people should not be allowed to trespass upon it wherever they like.

770. Is it the risk of the people in the district that we have to consider? The danger to the local community, the danger to passing trains from large animals straying on the line, and the danger to stock.

771. What is the danger to the local community? Well, it would be rather a serious matter for any person to get close in front of a train.

772. Are you aware that the Berrigan line, the Forbes line, and the Narrabri to Moree line are not fenced. If the community are prepared to accept the risk in other places, do you consider that there is any special reason why the line at West Tamworth should be fenced? I look upon it that a line upon which trains run both by day and by night ought to be protected, so that the general public should not trespass upon it.

773. There is a considerable amount of steam traffic in Elizabeth-street, Sydney, is there not? Yes.

774. More people would cross that street in a day than would cross the proposed line in a decade? But the people of Sydney have been broken in to the trams.

775. *Mr. Fegan.*] And there are gas-lamps along Elizabeth-street at night? Yes; that is an important point.

776. *Chairman.*] At Newcastle they have steam trams running through the streets, and in parts of Adelaide the train runs through the streets? My chief objection to having the line left unfenced is, that this country will be used largely for cattle, and if these cattle stray upon the line there may be a serious accident.

777. You say that the line should be fenced for at least the first 6 miles? Yes.

778. What would be the cost of fencing it on both sides for 6 miles? I do not think that you would get wire-fencing under £70 a mile; that would make it £840.

779. Then there is the question of severance? I presume that it is not intended to fence the remaining 7 miles, in which case there will be no severance. On the other hand, however, the public may demand that the whole of the line shall be fenced.

780. Although, legally, a severance will take place by the construction of the line, there will be no difficulty, so far as you are concerned, until it is fenced? To my mind, if the public demand that the whole line shall be fenced. a claim for severance will accrue. The line runs directly along the river-frontage.

781. Do you hold there is no severance unless there is a fence? There is no practical severance.

782. But legally there is a severance? There may be a legal severance, but we should not make a claim for that.

783. A claim for compensation on account of severance will lie in abeyance until such time as the last 6 miles are fenced? Yes.

784. What will be the immediate claim for severance? I put the claim for the first 6 miles at £1,500. We shall have to spend about £3,000 in providing water, if we are cut off from the river by the railway, and we are prepared to spend half of that amount. The compensation money would be spent in the same way.

785. Your claim, as you put it, is this—land, £744; fencing, £840; severance, £1,500; total, £3084—a further claim for severance to lie dormant until the rest of the line is fenced? Yes.

786. Can you tell us what the claim for compensation would be if the rest of the line were fenced? We should not ask for more than £1,000. The necessity for having water there is not so great as it is higher up.

787. Excluding the fencing, the total amount you would demand from the Government would be £2,244? Yes.

788. If the railway were taken on the other side of the river it would have to be fenced? If you went on the north side of the river you would have to fence right up to Attunga.

789. We should have to fence to the town properties and farms as far as Attunga, a distance of under 9 miles? Yes; further, if the Attunga people are to benefit by the construction of the railway on our side of the line, you will have to make a bridge over the river, and a pretty good bridge, too.

790.

The Hon. P. G. King, M.L.C. 2 Sept., 1896.

790. Do you desire to say anything more with regard to this proposal? No. The railway will not benefit our property. The people living within 6 or 7 miles of Tamworth will not use it, and those living beyond that distance are and may be too few to be taken into account. There will be only a few market-gardeners, or something of that sort.
791. *Mr. Wright.*] If the company at some future time alienated their land, would not the railway be of advantage to the purchaser? If the railway ran into the middle of our property, so that the land there could be cut up and sold, it would be of advantage to us; but a railway running along the river-bank, as this does, is of no advantage to us.
792. *Chairman.*] Is there anything you would like to add? No. I take it for granted that if the line is fenced two or three gates will be put in to allow us to get across.
793. *Mr. Hassall.*] The settlement in the district is practically along the Peel River Valley? Yes.
794. The farmers there have a very good road for the conveyance of their produce to Tamworth? Yes, a metalled road.
795. Do you think that the people between Tamworth and Attunga would use the line to get to Tamworth? I think that in nine cases out of ten people would prefer to go in with their own vehicles.
796. They do nearly the whole of their business with the town of Tamworth? Yes.
797. And when they take their produce in they bring out whatever household goods they require? Yes.
798. If the railway were built they would probably continue to go to Tamworth with their own vehicles? Yes. On the other side of Tamworth there has been no station for the convenience of the Nemingar settlers for years, though I believe that a station is now being put up where the Nundle Road comes in for the convenience of the traffic from Nundle.
799. The country near which the line runs from Tamworth towards the Moonbi Ranges is equal to anything about Tamworth? Yes.
800. And it is highly cultivated? Yes.
801. But the Railway Commissioners have not thought it necessary to make any provision for the traffic within 7 miles of Tamworth? That is so.
802. It will not be necessary to give station accommodation anywhere upon the company's land? Not so far as I can see.
803. If any station accommodation was given, it should be 6 or 10 miles out of Tamworth? It should be at least 6 miles away from Tamworth.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq. 2 Sept., 1896.

804. *Mr. Lee.*] Since you were last examined in regard to this railway proposal, have you had occasion to consider whether a more suitable route could be obtained in going out from Tamworth than has already been proposed? I have not gone into the question since I was last examined; but I know that at the time two or three alternative routes were considered.
805. *Chairman.*] Do you think that there could be any material alteration in the location of the line? It could be altered.
806. Could it be altered so as to affect the question of compensation or the question of severance much? A proposal was made to carry the line along one of the roads, but I did not like it; because it appeared to me that it would cut off the frontage of the land on one side of the street, and consequently be productive of serious expense in the matter of compensation. I do not remember whether the rails were to be on the street-level, or whether they were raised much above it. From my recollection, that line would probably have been cheap as regards earthworks; but I thought that it would be better to go at the back of the properties concerned, rather than at the front, and thus save compensation. I considered at the time that it would be better to pass over or under the street at such levels as would obviate the necessity for level crossings.
807. The remarks you have made apply to the line immediately adjacent or within half a mile of the Tamworth railway station? Yes.
808. Could you get from Tamworth to Attunga any more cheaply than at present proposed? Only in the way I mentioned. But before giving any definite answer on the subject I should like to have an opportunity to look the matter up.
809. Have you any idea what the cost of resumption will be between Tamworth and Attunga? I will get the best information available in the office for you.
810. Where land is resumed for railway purposes, can the owner force the State to fence? Yes, unless there is a clause in the Act which sanctions the construction of the line by the Government without fencing.
811. Therefore the State can protect itself from a demand for fencing? Yes; but the compensation would have to be regulated accordingly.
812. If we have a statement by the municipal valuer at Tamworth that the value of the land through which the line will pass before it reaches the town boundary is about £3,010, would you doubt its accuracy? I should have no reason to do so.
813. The amount does not seem an unreasonable one? I should not think it was too high.
814. You are aware that the line as located by the Department will necessitate fairly heavy resumptions between Tamworth and Attunga? Yes.

FRIDAY, 4 SEPTEMBER, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
The Hon. Daniel O'Connor.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq. 4 Sept., 1896.

815. *Chairman.*] You have seen the valuation of the local valuator at Tamworth? Yes.
816. Are you aware of the amount of it? I think you said, the other day, that it was about £3,000.
817. *Mr. Lee.*] That is within the municipal district of Tamworth, on the original route? Yes.
818. The estimate is for resumption without including severance? Yes. At the verbal request of the Chairman I looked into the matter, and got Mr. Thompson, the Government Land Valuer, to confer with me, and the conclusion arrived at was that—with some slight modifications, so that the line may clear buildings, and with a sweep round so as to clear the saw-mill property as much as possible—the valuation was a fair one. The allotments are not in the most important part of the town. Some of them were valued at about £1 per foot and others at about £2 per acre.
819. *Mr. Roberts.*] I think we came to the conclusion when we were in the locality that you would have to take the whole of the saw-mill? As the line was laid out it did not, in my opinion when I was there, hurt the saw-mill; but I can modify the line so as to cut only into the extreme corner of the saw-mill property, and that will do no damage to the saw-mill. The cost of those few perches of land—the most inconvenient portion of the property—would be a very small matter. Taking that into consideration, and modifying the line here and there, as it would be modified in staking it permanently, so as to do as little damage as possible to the property, I think the valuation a fair one; in fact, the calculation Mr. Thompson and I made in the matter, came to less than £3,000.
820. *Chairman.*] Having made all these arrangements, that will be the cheapest way of getting into Tamworth? Yes. With regard to the 2-chain road—the next street to the main road—it seemed it would be quite as expensive as regards construction as the other one and might lead to complications with regard to the land; and it was very doubtful whether it would be any cheaper as regards land resumption to come that way.
821. You say, then, that you cannot recommend any route into Tamworth which will cost less than £3,000 in resumptions? I cannot recommend any other route entering Tamworth than the one which has already been submitted, with the slight modifications I have mentioned.
822. Therefore, we are justified in believing that any route into Tamworth railway station, which will meet your approval from an engineering point of view, must cost pretty nearly what the valuator stated—£3,000? I think it will cost somewhere near that.
823. *Mr. Lee.*] Not including severance? I do not think that there will be any severance within the municipality at all. I do not think that need be taken into consideration at all, because where we cut through the centre blocks, the owner, if he possesses the land between the two streets, has the value of the frontage on both streets, and he can scarcely claim for severance when he has the frontage to both streets. In other cases we simply have to take the frontage as it stands.
824. But I think you will find that where a line goes through small town allotments, it renders the whole of it valueless, and the Government, as a rule, have to take the lot? Where that takes place it has been allowed for.
825. *Chairman.*] After you get outside the municipal boundaries you have rather extensive severance and resumption through the properties, pretty well all the way to Attunga? Severance—yes.
826. With regard to the difference between the Departmental route and the route suggested on the southern side of the river, are we justified in saying that in places they are from 2½ to 3 miles apart? About 2 miles.
827. *Mr. Humphery.*] Would the proposed deviation be accessible to the owners of the holdings through which the submitted line passed? It would be practically the same from Attunga.
828. But between Tamworth and Attunga? No; it would be quite different. The river divides the two lines.
829. Could the owners of land, who would be served by the line submitted, between Tamworth and Attunga, make use of the line if constructed as now proposed through the Peel River Company's estate? No; the same people could not make use of it.
830. *Chairman*: At Attunga there would be a railway station which would give access to the people on the further end of the 12 miles from Tamworth? Yes.
831. But as it approached nearer to Tamworth they could not use the new line at all? No.
832. *Mr. Lee.*] The resolution passed by the Committee some time ago bound the route down very hard and fast in these words:—

> Thence following approximately parallel the main road to the crest of the ridge; and thence by the western side of the road, but not adjacent to it, to the site selected as the terminus at Manilla.

Would it not be better to leave the matter to the discretion of the engineer as to whether he should be tied down in following the main road to the crest of the ridge, and thence by the western side of the road, or would it be more advantageous to divert the line at that particular point? I think as much latitude as possible should be left; because there may be an engineering difficulty. We cannot follow the road between Attunga and the top of the hill.
833. You might find it better to go on the eastern side of the road? Yes; in fact the line is shown here running into Manilla on the eastern side of the road. I thought that was the line the Committee really favoured. The line was staked on the western side provisionally, and it went through some properties there which of course it ought to avoid. It has been placed since on the other side. I think that is the proper side for it. It ought to go on the eastern side for the last 3 or 4 miles to Manilla. I can assure the Committee that whatever the location is it will have the most careful consideration.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

Railway from Tamworth to Manilla.

APPENDIX.

A.

[To Evidence of H. McLachlan, Esq.]

LAND REQUIRED FOR THE PROPOSED RAILWAY.

Government Railways of New South Wales,
Secretary's Office, Sydney, 21 February, 1896.

Sir,

With reference to the inquiry made by your Committee as to the views of the Railway Commissioners in regard to the cost of land required for the construction of the railway from Tamworth to Manilla, I beg to inform you that the opinions of the Commissioners are set forth in their report on the proposal as under :—

"We also informed the deputations which waited upon us for the purpose of giving information that we should advise the Government that it should be made a *sine qua non* that all the alienated land required for the line should be conveyed to the Government free of any payment for the same or for compensation, the Government doing all the legal work in connection therewith. We think it would be only reasonable, however, for the land necessary within the populated area of Tamworth, as now defined on the maps of the Department of Lands, to be excluded from this arrangement, as the residents in the suburbs of Tamworth will not, of course, be interested in any way in giving land."

With regard to the further question as to the views of the Commissioners in the event of the landowners declining to arrange for or to give the land free, I am directed to say that if the land is not given free—other than allotments specially excepted and referred to in report—the Commissioners would not be prepared to recommend the construction of the line.

I have, &c.,
H. McLACHLAN,
Secretary.

The Secretary, Parliamentary Standing Committee on Public Works.

B.

[To Evidence of H. Deane, Esq.]

APPROXIMATE AREAS OF CROWN AND ALIENATED LANDS REQUIRED FOR RAILWAY PURPOSES.

Department of Public Works, Railway Construction Branch, Engineer-in-Chief's Office,
Sydney, 27 February, 1896.

Tamworth to Manilla Railway.

IN connection with the inquiry into the above proposed railway, I beg to forward herewith the approximate areas of Crown and alienated lands that would be required for railway purposes :—

Crown land	116 acres.
Alienated land	243 ,,
Total.....	359 ,,

The largest resumption, consisting of 87 acres, would be from the Attunga Estate, owned by Mr. Alexander Rodgers,

H. DEANE,
Engineer-in-Chief.

The Secretary, Parliamentary Standing Committee on Public Works.

C.

LETTER FROM THE CHAIRMAN OF THE COMMITTEE TO THE ENGINEER-IN-CHIEF FOR RAILWAY CONSTRUCTION RESPECTING A SUGGESTED ALTERNATIVE ROUTE.

Parliamentary Standing Committee on Public Works, Sydney, 30 March, 1896.

Sir,

The line as laid out from Tamworth to Manilla will necessitate a large sum of money being paid for resumption and severance. The Sectional Committee desire that you will have various matters inquired into in order to enable them to form a definite opinion with regard to the possibility of a deviation, or alteration of route.

With regard to the line as surveyed by the Department :—

1. Immediately joining Tamworth would it not be possible to turn off the main line at the bank which forms the approach to the bridge over the Peel River, thence by an embankment towards a 2-chain street, and along that street until it reaches the main road? This route will not attain so great an elevation as that surveyed by the Department, and can be carried through without severance. From the main road to the reserve beyond the municipal boundary is it not possible here, by an alteration of the line, either taking it lower down on the flat, or contiguous to the road, to lessen the amount of improvements embraced in the surveyed line, and make the severance less objectionable? From thence to Attunga Creek is it not possible, for almost the whole length, to bring the railway right along the southern side ; and in any case when it passes houses, where these are close to the road, for a small extra width to be taken on the other side of the road, in order to leave ample width for the railway to pass? What will be the difference in cost between following the travelling stock reserve and the line laid out by the Department from mile 201 to mile 205? Will it be possible by taking an intermediate course to return to the travelling stock reserve about 203 miles, and thence follow down to 205 miles, crossing between this place and 207 miles on to the eastern side of the ridge ; thence following that side of the road into Manilla, and passing round the toe of the ridge instead of cutting through? This route would very much lessen the cost of resumption, and would enable the land for the railway to be obtained free of cost. We should be glad to be advised on the various points in connection therewith.

2. *Different route.*—Would it not be possible to turn off at West Tamworth and, maybe, follow for a distance the road to Bective, and proceeding thence in a northerly direction, cross the Peel River somewhere below Long Island, portion 38, Mary Ann Burdekin ; thence continuing almost parallel to the line as at present located, and keeping all the distance upon lower country, eventually reaching the present line on the reserve to the southern side of mile 210?

From casual inspection it appears possible that a very cheap line, at a lower elevation than that laid out, and meeting all the public requirements as fully as the surveyed line, might be obtained, provided it is possible to obtain a cheap crossing over the Peel River. Inasmuch as there will be a long stretch of river from which to choose a bridge site, it appears possible that one costing no more than your Namoi Bridge on the Narrabri-Moree line may be obtained. The Namoi carries more water than the Peel, and it does not seem improbable that a cheap bridge may be constructed somewhere in the position mentioned. I shall be glad if you will instruct one of your officers to inquire into the matter.

I have, &c.,
THOS. EWING,
Chairman.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

RAILWAY FROM TAMWORTH TO MANILLA.

REPORT.

THE Sectional Committee appointed on the 17th March, 1896, to inspect, take evidence, and report with reference to the proposed Railway from Tamworth to Manilla, have the honor to report to the Parliamentary Standing Committee on Public Works :—

That the Committee, consisting of Mr. T. T. Ewing, M.L.A. (Chairman), the Hon. C. J. Roberts, C.M.G., M.L.C., Mr. G. Black, M.L.A., and Mr. J. L. Fegan, M.L.A., left Sydney by the 6·15 train on Friday, 20th March, 1896, arriving at Tamworth at 4 a.m. the following day. At 11 a.m. the Committee, accompanied by Mr. G. L. Wilkins, Railway Surveyor, and Mr. C. W. Jenkins, District Engineer, Roads and Bridges Department, left Tamworth for Manilla by special coach, following the surveyed line to the proposed site of the Manilla Railway Station.

The Committee opened the inquiry at the Manilla Court-house on Monday, 23rd March, and subsequently proceeded for a distance of 10 miles towards Keepit, and inspected the country between there and Baldwin's Mountain.

On Tuesday, 24th March, the Committee again took evidence at the Manilla Court-house, and afterwards inspected the proposed site of the Manilla Railway Station and the surveyed line for some distance from that point.

At 10·30 a.m. on Wednesday, 25th March, the Committee left Manilla for Barraba, and leaving the main route made an inspection of the country in the vicinity of Manilla Station, and on the eastern side of Manilla Creek. The Committee arrived at Barraba at 5·30 p.m., and from 8 to 10 o'clock the same evening took evidence at the Court-house.

On Thursday morning, 26th March, the Committee again took evidence at the Court-house, Barraba, and returned to Manilla in the evening.

The Committee left Manilla for Tamworth at 11·15 a.m. on Friday, 27th March, and again inspected the proposed site of the Manilla Railway Station, and considered in detail various deviations which appeared necessary in consequence of obstructions along the route of the surveyed line. The Committee arrived at Tamworth at 5 p.m., and inspected that portion of the proposed line passing through the allotments within the municipal boundary.

On Saturday, 28th March, the Committee took evidence at the "Imperial Hotel," Tamworth, from 10·30 a.m. to 12 p.m., examining the District Engineer, Stock Inspector, and the Property Valuator to the Tamworth Municipal Council. At 1 p.m. the Committee left Tamworth for Newcastle, which was reached at 7·30 p.m., and subsequently considered their report.

On Monday, 30th March, the Committee met at the "Great Northern Hotel," Newcastle, at 8·30 a.m., and after hearing evidence proceeded to Sydney, which was reached at 1 p.m.

The

The area of country which the proposed railway is primarily intended to serve may be regarded as being embraced within the boundaries of the county of Darling, in an area extending approximately 35 miles east and west, and about 45 miles north and south. To this may be added an area of country lying to the north-east, on the Horton River, and directly north towards Bingera, to which further reference will be subsequently made, and on the south an area of country lying between Manilla and the village of Attunga. The railway may incidentally be of advantage on the Tamworth side of Attunga, but as there is a good metal road between Tamworth and that place, it appears reasonable to suppose that from within a few miles of Tamworth produce will be carted to the Tamworth Station, despite the fact that the proposed line is adjacent to the road.

The county of Darling may roughly be described as embracing the upper waters of the Namoi and its tributaries, chief of which is the Manilla River. Surrounding all the main waterways are broad flats, at times extending for several miles into the back lands, and forming a great area of cultivable land suitable for growing wheat and other crops which are adapted to the climate. Wheat, the main product of these agricultural lands, is variously estimated as giving a return of 15 to 20 bushels per acre. The area of accessible cultivable land could not be estimated at less than 50,000 acres, to which must be added large areas of lesser dimensions in various parts of the county, which, notwithstanding the existence of a railway depôt at Manilla, might, from the contour of the country, or by reason of distance, still remain unavailable for agricultural settlement. This area of cultivable land is further increased by the belt lying south of the county boundary, and extending as far as Attunga. Taking a reasonable area upon either side of the proposed railway line and outside the boundaries of the immediate influence of the railway station at Tamworth, it will be a low estimate to state that an aggregate of 100,000 acres of cultivable land will be benefited by the construction of the line. The rest of the land may be regarded as fair sheep country, with a carrying capacity of one sheep to 2 acres, and gradually deteriorating towards the table-land. In the vicinity of Ironbark, the country becomes very inferior and not useful for much more than summer feed.

That agriculture settlement at present is limited is primarily due to the distance which farming produce has to be carried, and the fact that considerable areas are held in large estates, whose owners have had little inducement to turn them to more profitable use. It appears probable that the estimated return furnished to the main Committee by the Railway Commissioners will be fully realised, and that there will be a speedy increase in agricultural settlement. Consequently the estimate in the course of a few years will be found to be very materially augmented.

In the county of Darling are depastured about 1,000,000 sheep. The Stock Inspector estimates the annual wool clip from these to be about 1,600 tons. This would, in every instance, find its way to the Manilla Railway Station. The steadily-proceeding improvement of the country by burning off and clearing renders it fairly certain that this return will be maintained, subject to reductions, should the flats be placed under cultivation, and it appears that the Departmental estimate is by no means over-stated.

The Stock Inspector estimates that there are a little under 1,000,000 sheep, 50,000 cattle, and 30,000 horses depastured within the boundaries affected by the railway construction. It is probable that, in many instances, the stock would not use the railway, the great bulk of it being likely to travel by road, but there will be many lots from small holders which will justify the Departmental estimate of 500 trucks per annum. With regard to passengers and mails, the estimate does not appear excessive. The estimate of inward merchandise towards Attunga and Manilla is a reasonable one.

A mineral belt, running through the county of Darling in a north-westerly direction, extending east from Manilla towards Barraba, gives promise of development. The residents are at present very hopeful in consequence of some revival in connection with copper-mining and recent valuable finds of gold. Although the Committee believe there is a reasonable hope of development in connection with this industry, and that considerable traffic incidental to it will ensue, still the figures and information supplied are so vague that it is impossible to make any definite statement.

Nevertheless

Nevertheless it cannot be doubted that the mining industry, though not taken into consideration by the Railway Commissioners, will have a definite effect upon the traffic.

It has been already explained that the traffic lying within a few miles of Tamworth, and connected therewith by a good metal road, may continue to use road transit to the railway station at Tamworth. At Attunga some traffic should be gathered on the road from Attunga to Hall's Creek on the east, and from towards Somerton on the west. To the north-east the traffic of a tract of country lying approximately 20 miles west from Barraba will make towards Manilla, irrespective of railway communication to the north or west. It is difficult to state exactly where the traffic would split to the north were a railway constructed from Inverell, *via* Warialda, to Moree. The Committee have definite evidence that it would be some considerable distance north of the Nandewar Range. The matter, after all, is one of freightage, and traffic selects the cheapest route to market. At Werris Creek the main trunk line becomes common to traffic *via* Manilla, or *via* Narrabri. From Werris Creek to Warialda is a distance of 216 miles. From Werris Creek to Manilla is a distance of 54 miles. The Warialda-Narrabri traffic would therefore have an extra distance of 164 miles of railway carriage. From Warialda to Manilla is approximately 92 miles. If the distance from Manilla to Werris Creek were the same as that from Warialda to Werris Creek the traffic would split about 18 miles north from Barraba. It is, therefore, simply a question as to how many miles of road carriage are equal to 164 miles of railway carriage. Under the circumstances, it appears to the Committee not unreasonable to estimate that most of the traffic south of Bingera would still make Manilla, even were a railway constructed from Moree to Inverell.

The facilities for grazing at Manilla, and the difficulty of obtaining grass-feed at Tamworth, at which place carriers would require to feed their horses, render it unlikely that teams would pass a railway depôt at Manilla and extend their journey to Tamworth. In addition, goods would have the further disadvantage of slower transit. The prices quoted for road carriage between Manilla and Tamworth are, under the most favourable conditions, so much greater than the quoted railway rates that there is no doubt most road traffic will be transferred to the railway. It is, therefore, highly improbable, unless in very special cases, that the railway depôt at Manilla will be passed by teams making for the Tamworth Railway Station.

The road from Tamworth to Manilla is between 27 and 28 miles in length. It varies in width from 1½ to 10 chains, widening out in places into the travelling stock reserve, is well formed, of a slightly undulating character, and well suited for heavy team traffic. For the first 7 miles it has been formed and metalled at a cost of £600 per mile. Thence for a distance of 2 miles to a point beyond Attunga Creek the road has been cleared and drained at a cost of £40 per mile; from Attunga Creek to Burdekin's Springs, a distance of 4½ miles, it has been formed and metalled at a cost of £600 per mile, exclusive of two bridges; for a further mile and a quarter it has been metalled at the same cost; for the next 3 miles it has been formed and metalled in places at an expenditure of about £300 a mile; from that point, near Norris', to a distance of 2 miles or a little over, it has been cleared at a cost of £30 a mile, and from thence to Manilla it has been metalled at a cost of £600 per mile. This large expenditure upon the road precludes the possibility of the Committee suggesting, except in minor details, any divergence, for a lesser sum would be required for severance and resumption than the amount necessary to furnish a new road in lieu of the portion abandoned.

The line, as surveyed by the Department, leaves the main Northern Line at Darling-street immediately on the Newcastle side of the approach to the Tamworth Railway Station; it runs through section 33 to Macquarie-street, passes in close proximity to a saw-mill and cottages, and causes a rather extensive severance; thence it passes on a rising grade to O'Connell-street; thence on a falling grade for a distance of about 1 mile in a westerly direction, causing considerable severance in town allotments, which will necessitate a further extensive resumption; thence in a north-westerly direction almost parallel to the existing route to Manilla, through suburban allotments, where further extensive resumptions will be necessary. Thence it passes through country portions almost parallel with and

varying in distance from the main road from 2 to 30 chains to the village of Attunga. The Committee are informed that there is no certainty of any of the land to this point being given for railway purposes; in fact, it is probable that such will not be the case. Thence the railway almost adjoins the main road as far as Attunga Creek. On this length it appears probable that most of the land required can be obtained without cost. At Attunga Creek the line bears away from the main road until a distance of some 40 chains intervenes, becoming again contiguous to the road at the north-east corner of portion 109. Thence the line proceeds, within 2 chains of the road, to the north-east corner of portion 111. Leaving the road at this point, until distant therefrom about 40 chains, it again approaches it at the north-east corner of portion 22. On the whole of this length, with the exception of portions 20, 22, and 23, it appears probable that the necessary land will be obtained. Thence the surveyed route follows contiguous to the road and travelling stock reserve to Manilla. From portions 72 to 68 it is doubtful whether the land can be obtained. With regard to portions 57 and 73, it appears probable that arrangements can be made to obtain the land. In portions 23 and 22, and from portion 72 to portions 12 and 13, the surveyed route passes either through or in close proximity to houses and other valuable improvements. It is suggested that the land required for railway purposes should be conveyed to the Government free of cost, and there appears to be a probability that a fund to purchase the necessary areas will be formed by landholders adjacent to and north of Manilla; but it is highly improbable that a sufficient sum of money can be obtained to secure the requisite land should the present Departmental survey be adhered to, which, as located, makes it impossible that any effort made by the residents to obtain the land can be successful.

The Sectional Committee are strongly of opinion that the time has arrived when a railway should be constructed to Manilla, provided it can be done at a reasonable cost. They are not prepared, however, to make an unqualified recommendation until certain information which they require has been obtained from the Engineer-in-Chief for Railway Construction, when they will make a final report.

THOS. EWING,
Chairman.

31 March, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

RAILWAY FROM TAMWORTH TO MANILLA.

SUPPLEMENTARY REPORT.

THE Sectional Committee, in placing their report of the 31st March, 1896, before the Parliamentary Standing Committee on Public Works, although expressing the opinion that the railway should be constructed from Tamworth to Manilla, were not prepared to recommend the construction of such railway if it entailed a heavy outlay for land resumption. It was not possible to express a definite opinion until the Engineer-in-Chief had stated definitely his views with regard to the cost of a line suggested to him which would leave West Tamworth at the railway station, and thence passing through the Peel River Company's Estate, would pick up the Departmental survey beyond Attunga, thence following that survey approximately through Attunga Run, thence taking a more westerly route through Klori and following down on the western side of Greenhalgh Creek, crossing near its junction with the river, and reaching the Departmental line in the travelling stock reserve.

From the information received in detail from the Department, it is apparent that it will be well to modify this proposal, and accept, approximately, the location of the Departmental line for the last few miles into Manilla. By removing the railway from the road frontage, and placing it sufficiently far to the west to prevent any serious interference with the important improvements upon the various holdings, it will be possible to obtain a line which will require but a small amount to be expended for resumption purposes. The Sectional Committee would have recommended a line passing down the west side of Greenhalgh Creek, thus avoiding almost all claims for severance, but the extra length caused by its westerly trend would have necessitated the expenditure of a greater amount in extra railway construction than will be required for the resumption of the land if the line be located adjacent to the Departmental route, provided that care be taken to place it west from the present marked line.

The Sectional Committee, therefore, recommend that a line turning off from West Tamworth and passing over the Peel River, near its junction with Attunga Creek, and passing on then approximately parallel with the road from Tamworth to Manilla, thence picking up the Government survey on the top of the ridge, and thence on the western side of that road, keeping well back from it, but passing through the same holdings as are intersected by the Departmental line, be constructed.

The railway will be built more cheaply per mile over this route than over the route shown in the Departmental survey, but will be about a mile longer. It will meet all public requirements that are met by the line located by the Department. It will avoid any payment for severance from Tamworth till within a few miles of Manilla.

In respect to the land in these few miles, an understanding appears to have been come to with some of the holders.

It does not appear likely, should the line be located as suggested by the Sectional Committee, that any resumption money will require to be paid in more than four or five holdings, and the obligations incurred in this way do not appear to be more heavy than the residents interested in the construction of the railway might be expected to discharge.

The heavy resumption particularized previously on the line as originally surveyed would render any negotiations on behalf of the residents to obtain the land abortive.

The Sectional Committee recommend the construction of the line as suggested by them at a cost not exceeding £2,500 per mile, including cost of land resumption.

THOS. EWING,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 19 June, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

RAILWAY FROM TAMWORTH TO MANILLA.

[TAKEN BEFORE THE SECTIONAL COMMITTEE.]

MONDAY, 23 *MARCH*, 1896.

[*The Sectional Committee met at the Court-house, Manilla, at* 10 *a.m.*]

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.

George Black, Esq.

The Sectional Committee proceeded to consider the proposed Railway from Tamworth to Manilla.

Mr. Charles Baldwin, grazier, Durham Court, Manilla, sworn, and examined:—

Mr. C. Baldwin. 23 Mar., 1896.

1. *Chairman.*] What distance is Durham Court from Manilla? About 2 miles.
2. What area of land have you? 26,000 acres of freehold and conditionally-purchased land.
3. Is that land on both sides of the Namoi? Yes.
4. What area have you which you regard as first-class land? About 20,000 acres.
5. That is land which might practically be regarded as Namoi flats? It is all land which would be fit for agricultural purposes, and the back lands are quite equal to the river-flat lands for similar purposes.
6. To what use do you put it? Grazing cattle, sheep, and horses.
7. To what use would you put it if there were a railway terminus in Manilla? I would lease it to people who would use it for agricultural purposes.
8. You believe the land would then be used for agriculture rather than for grazing? Most decidedly.
9. Do you think you would be able to get tenants or people to purchase the land? I believe, with good means of communication to Tamworth, I would be able to make arrangements which would induce people to farm the land.
10. What would be grown on the first-class country which you have? Wheat chiefly.
11. To what other purpose would it be put? To growing corn.
12. How many bushels of wheat to the acre do you think you would be able to obtain? About 20.
13. Is the Manilla wheat fairly good? It is very good.
14. Would the railway have any effect upon what you may term your second best land? Certainly; the stock and the wool which would be produced would be carried by the railway then.
15. You do not consider that the second-class area will go under cultivation? I believe that of the 26,000 acres I have there are 20,000 acres fit for agricultural purposes, and the balance is fit for grazing purposes.
16. Would the cattle and sheep travel more cheaply by railway than by road? Certainly.
17. Are you certain of that? If there were a railway here we should send stock away in smaller numbers than we do at present, and it would be much cheaper to send by rail than by road. Then, of course, there is the wool.
18. Any stock going from your place would be put on the railway at Manilla? Yes.
19. What route do the stock leaving the district take to go to Sydney—are they driven right down? There is very little of that done. In a good season like this they would be sent by road.
20. Would the cattle in this district, except in a good season, be trucked to Tamworth? If the season were very good people would chance going by road with their stock, but the bulk of the stock during five years has been trucked from Tamworth to Homebush.
21. The cattle which at present pass through Manilla would be trucked here? Most decidedly.
22. Do you get any merchandise direct from Tamworth? Yes.
23. Do you bring it in your own drays? No; by the carriers.
24. What is the cost of carriage from Tamworth to Manilla? One shilling and sixpence a cwt, or 30s. a ton.
25. If the railway carried merchandise at 8s. a ton, you would use it? Certainly.
26. Would your neighbours also use it? Yes.
27. What do you pay for the carriage of wool from Manilla to Tamworth? £1 per ton.
28. If the railway carried it for 7s. 6d. a ton, would you use it? Yes.
29. What does it cost you to drove sheep in small lots from Manilla to Tamworth? Something more than 1d. per sheep, but not much more.
30. Is there any advantage in having them taken in rapidly by train? Certainly; that is where the gain comes in. They would go by train in a few hours, and three days by droving.
31. If it costs the same to get your sheep to Tamworth by rail as it would by road, which mode of transit would you choose? The rail, on account of time.
32. Have you any knowledge of the timber of the district? Yes.
33. Do you know the box timber? Yes.
34. Do you regard it as a good lasting timber? Yes.

Mr. C. Baldwin. 23 Mar., 1896.

35. What is your experience with regard to box timber? I have seen good sound box timber taken out of the ground after having been there for nearly thirty years. In some of my out-buildings I have box slabs which have been split for forty years, and they are still sound.
36. Then it would be safe to estimate the life of good white box at twenty-five years? Yes.
37. Do you care to express an opinion in regard to the quantity of timber available? No.
38. Is there anything else you would like to state which would influence the Committee in regard to the railway? I may state that the places adjoining my property are equal in quality so far as the land is concerned.
39. How long have you been in the district? Forty-seven years.
40. How many acres of the inferior land in the country are required for a sheep? In its present condition about 2 acres. The good land will carry one sheep to the acre.
41. Can you give us a description of the county of Darling? It is first-class county, with broad areas on both sides of the Namoi River, running back into second-class grazing country on the higher lands. There is the same class of country—good flat country—up the Manilla River, and then the Namoi flats run into second-class country. Towards the east the flats are more pinched, but still good in places. As you approach the Moonbi Range you pass into granite country, which, although not very highly regarded, is first-class summer-feed country.
42. And you believe that all that area would use Manilla as its trading depôt if there were a railway to it? Yes. I may say the reason cultivation is retarded is because of the difficulties connected with 27 miles of carriage by road from Manilla to Tamworth.
43. Do you believe any traffic east of the Moonbi would come to the railway? No.
44. Do you believe any traffic west of the Nandewar Range would come to the railway? No.
45. Do you believe any traffic would come to Manilla from north of the Nandewar Range towards Warialda? Yes. At present, on account of the good condition of the road to Manilla, the carriers choose that route; but if a railway be built in the future across from Moree to Inverell I believe it will intercept nearly all the traffic coming north of the line and some traffic from the south of it.
46. *Mr. Roberts.*] I presume you are thoroughly familiar with the whole of the district from Tamworth to Manilla and further north? Yes; as far out as the MacIntyre River.
47. Is the whole of the land between Tamworth and Manilla good agricultural country? Yes, every bit of land which the plough could be put into would grow wheat.
48. Is the whole of the land between Tamworth and Manilla taken up? I think so. I do not know of any Crown lands between the two places except the travelling stock route.
49. Is a good deal of the land held by large holders? There are a few large holders, but a considerable area of the land is taken up by small holders. In all probability the bulk of the best land itself is held by large holders.
50. Do you think the holders of these large areas would be induced to cut up their land into farms, and lease them if the railway were constructed? I feel certain they would. It would be to their interests to do so. They would make ten times more money in that way than by grazing stock.
51. Have you had any offers from persons willing or anxious to lease the land? I have had a few, but they have not been in sufficient numbers to entertain them, because there are no facilities for getting produce to market. If, however, a railway came here, I think there would be sufficient inducement.
52. The population between here and Tamworth would, under those circumstances, largely increase? Yes.
53. Do you think, with an increase of population, the railway would become a paying concern in a short time? Yes.
54. How many acres of your 20,000 acres of first-class land have you under cultivation? About 150 altogether, in patches. I only grow for my own use.
55. And you have no hesitation in saying that those 20,000 acres of first-class land would average 20 bushels to the acre? Yes.
56. Is that the land which, if sufficient inducement offered, you would be inclined to lease? Certainly.
57. Does the proposed line go through any of your property? No, not from Tamworth to Manilla.
58. Are you in a position to say whether the owners of land would give to the Government the land required for railway purposes? I do not know.
59. *Mr. Black.*] I suppose you are fairly well acquainted with the character of all the land within the neighbourhood of the ranges? Yes.
60. Are you aware that about one-half of the land in the district is as yet unalienated? I am not aware of that.
61. According to the official return a large proportion of the land is as yet unalienated? Then I presume that that land is not very good, otherwise it would have gone, because I know of some very inferior land in this neighbourhood which has been alienated.
62. It is not even suitable for grazing purposes? I think all of it is suitable for grazing purposes; but then, of course, there is not water everywhere.
63. The bulk of the land taken up around here is, I suppose, not only suitable for grazing purposes, but for the purposes of cultivation? Yes.
64. Supposing increased facilities for reaching market caused the cultivable land to be used for agricultural purposes, do you think the graziers of the district would give up cattle, horse, and sheep breeding, or that they would take up the land which is now unalienated for grazing purposes? I think they would do so gradually. I do not think it would be done very suddenly.
65. Would they relinquish grazing altogether on the good land and use it for agriculture, and would they go further back on the rougher and as yet unalienated land, for grazing purposes? I think they would lease the land for agricultural purposes. It is the most profitable, and I presume they would do it in their own interests.
66. You say the bulk of this unalienated land is fit for grazing purposes? Yes.
67. Possibly, therefore, the reason it has not been taken up is because better land is available? That is so.
68. It is a matter of positive fact in all countries that the first-class land is taken up first, and then the second-class land comes into use;—do you think that course will be followed here, as in other places? Decidedly.
69. Do you not think it is probable that if with increased market facilities the bulk of the good land is used for agriculture that the graziers will fall back on the now unused land for grazing purposes? Certainly.

Mr. C. Baldwin. 23 Mar., 1896.

70. I suppose that what holds good of the land in the neighbourhood of Manilla holds good in the neighbourhood of Barraba? Yes.
71. Do you think the traffic from Barraba, or immediately around Barraba, would come this way under present circumstances if a railway were constructed to Manilla only? Yes, and for some distance beyond it.
72. Would you get the traffic as far as Warialda? Yes.
73. If a railway were constructed from Moree to Inverell, where would the Warialda traffic go to? It would go on the Inverell-Moree line.
74. How much further in a southerly direction would it go to that line? I should say for 30 miles.
75. In advocating a line to Manilla, are you most moved by the saving of time in transit, and the obtaining of a good condition of stock, or by some idea that with a railway you lessen the cost of carriage;—which reason has the greatest weight with you? Lessening the cost of getting stock, &c., to market.
76. Then, if the railway did not greatly lessen the cost of carriage, you would not be in favour of it? No.
77. *Mr. Fegan.*] Do you know the average rainfall of the district? No.
78. Has not the rainfall a great deal to do with the question of settlement on land? No doubt.
79. Is the river Namoi near your property? Yes.
80. I suppose if your property were cut up into small farms an artificial method could be found for supplying them with water? Yes.
81. I presume if you split your 20,000 acres into small holdings, your property would give you a larger return than it does at present? Certainly.
82. And a larger number of men would be employed? Yes.
83. How many men do you employ now? Twelve continuously. There is other labour, of course, at shearing time.
84. How much wool do you produce? I have about 16,000 sheep, and I produce about 250 bales of wool.
85. What is the freight to Tamworth? It costs £1 a ton.
86. Then railway carriage would be much cheaper than team carriage? Yes; it would be much cheaper than team carriage, and more expeditious.
87. How long is it since this line was first advocated? It was advocated when the line ran from Tamworth to New England.
88. Has the population of the district increased since then? Yes; I should think by 1,000 per cent.
89. How many droughts have you passed through during the time you have been in the district? Four.
90. The other seasons, I suppose, have been average good seasons? Yes; of course we take no notice of partial droughts. We call it a drought when it kills off a large number of stock.
91. I suppose people have been asked to rent part of their land for farming purposes? Yes; and you will receive evidence to-day to the effect that there are places in the district where considerable areas have been let for farming purposes.

Mr. Edwin Oliver Watt, mine-owner, Crow Mountain, sworn, and examined:—

Mr. E. O. Watt. 23 Mar., 1896.

92. *Chairman.*] How far is Crow Mountain from here? Twenty-four miles north.
93. Would you make Manilla your depôt if a railway were constructed? Yes; Manilla is the natural outlet for the field.
94. Have you any statement to make with regard to mining interests in connection with the railway? The residents of the adjacent fields are desirous that in the consideration of the construction of a line the mineral wealth of the district should not be overlooked. I have been requested to state that the land to the north and east of Manilla is very rich in valuable minerals.
95. Define the areas north and east? The metalliferous belt extends from Nundle on the south-east of Tamworth through Bingera, and on towards the Queensland border. It is about 5 miles wide at the outside, and it runs 10 miles east of Manilla, and thence in a north-westerly direction until it becomes north of Manilla. It abounds in gold, copper, antimony, manganese, chromium, and other ores, but is as yet practically undeveloped. The industry of gold-mining has received attention during the last twelve months in the vicinity of Crow Mountain, and I should think in that neighbourhood about 250 men are at present employed in mining. Some thousands of pounds worth of gold have been won in the past year. I do not think I am far wrong when I state that £5,000 worth of gold and more has been obtained in the vicinity of Crow Mountain within the last twelve months. I have considerable practical and theoretical knowledge of the minerals of the district, and I venture the opinion that the field will shortly prove to be one of the most important in New South Wales. The present mineral finds justify considerable outlay on heavy and expensive machinery. We have already one battery on the field. Another is coming almost immediately, and probably others will follow. Of course, the machinery will have to come through Manilla.
96. What effect would the construction of the railway have upon the mining industry? It would give better facilities for getting machinery into the district and for the transit of various ores. There is no doubt that large quantities of ore would be sent away for shipment or for smelting.
97. What about the timber of the district? From 20 to 25 miles distant there are unlimited supplies of the very finest box and ironbark timber—ironbark particularly.
98. What sort of road is it? It would require some construction for heavy traffic, but it is for the most part down hill from Crow Mountain to this place. The country is practically open.
99. Have you any other information to offer? With regard to the area of land in the county of Darling which is unalienated, I may state that a considerable portion is at present being held by the miners as mining reserves, and all the unalienated land is actually used for grazing purposes under annual leases.
100. *Mr. Roberts.*] Have any shafts been sunk in the neighbourhood of Crow Mountain? Over 100 claims are working.
101. What is the average yield of gold to the ton? At my battery I have crushed stone going from 7 dwt. to 33 oz. to the ton.
102. Do you use the most modern machinery? We have for our own use a very small modern plant. The cost of carriage was too great to permit of us getting a larger plant. The other mining plants are more or less obsolete.
103. Is Crow Mountain nearer to Manilla than to Barraba? It is a few miles nearer to Barraba, but Manilla is our natural outlet.
104. Do you think the development of the field is retarded by the present high rates of carriage? Yes.

Mr. E. O. Watt. 23 Mar., 1896.

105. Are the copper-mines adjacent to the gold-mines? No; they are north-east from Barraba; we are south-east.
106. Is there only one copper-mining company or more? I believe there are two.
107. Do these copper companies send ore to Sydney? I am informed that they are sending mat—that is, the product of the first smelting—to Newcastle or somewhere down the line.
108. Have you heard them complain of the want of better communication with the metropolis? Yes.
109. Have you had a large experience in mining? Yes; here, in Victoria, and South Australia.
110. Can you mention any district similar to this which has developed by means of railway communication? I was on Fairfield, east of Tenterfield, before the railway was constructed through there, and the improvements in the field after railway communication was given were very marked.
111. I suppose it not only decreased the cost of carriage, but also induces people to visit the field and invest their capital? Yes, it is very difficult to get men to come to Crow Mountain at present because of the difficulty of access to it.
112. From your observation, do you think the district between Manilla and Tamworth is one which should have railway communication? I think so. I have seen similar districts in Victoria, which have been largely benefited by railway communication.
113. *Mr. Black.*] Is there any alluvial at Crow Mountain? Not much at present.
114. Is there any likelihood of it? There are extensive deep leads there, but I scarcely think they will pay. It is virtually all reefing. They are sinking to 120 feet at the present time.
115. Are the ores easily treated? Very.
116. Do you think it will be necessary to send any of the ore to Sydney for treatment by chlorination? Scarcely at present, but I think it is highly probable it will be necessary later on.
117. How do you get your supplies from Manilla? By vehicle.
118. On which side is Crow Mountain situated? On the eastern side, although it is practically north of Manilla.
119. Is it likely to develop nearer Tamworth or further from Tamworth? I think it is likely to develop towards Tamworth. Some recent discoveries have led me to believe it will develop on towards the Namoi River.
120. Should it develop in that direction, would the traffic still come to Manilla? Unquestionably.
121. Would a development in that direction make the field more readily accessible? Yes.
122. *Mr. Fegan.*] Is there plenty of water at Crow Mountain? Yes.
123. I suppose you know of fields which have spun out on account of the want of water? Yes; we have had some hardships there in regard to water, but they have not been very pronounced as yet. Unlimited supplies can be obtained by sinking.
124. Is the field likely to be permanent? Yes; later developments seem to indicate that it will be.
125. Are provisions dear there? They are fairly reasonable.
126. Do you think a railway would make things cheaper for the miner? Yes, somewhat cheaper.
127. And somewhat better, I suppose, at times? Yes. Of course we live pretty roughly at present, on account of the time it takes to reach Manilla and Tamworth.
128. And railway communication to Manilla would obviate these difficulties? Yes, to some extent.

Mr. Edward Bowman, farmer, Upper Manilla, sworn, and examined:—

Mr. E. Bowman. 23 Mar., 1896.

129. *Chairman.*] How long have you lived at Upper Manilla? Twenty-five years.
130. What area of land do you hold? One thousand two hundred and eighty acres.
131. *Mr. Fegan.*] How far are you from the proposed railway terminus? About 10 miles.
132. Do you use teams for carting to and from Tamworth? Yes.
133. In the event of the line being constructed to Manilla, would you still continue to use your teams as far as Tamworth? No; I should bring them to the terminus and unload.
134. Would it not pay you better to carry right on to Tamworth? No.
135. Would the majority of the people at Upper Manilla be satisfied to bring their produce to Manilla, and unload? Yes.
136. What do you produce? Wheat and corn.
137. How many acres have you for grazing? Two thousand acres.
138. What do you graze? Sheep, principally.
139. Do you find the distance from railway communication hampers you in connection with the production of wool? Yes; it takes me a week to deliver it in and out, and with the railway I could do it in a day.
140. How do you send sheep to market? By road.
141. Do you know that it is estimated that there will be an annual loss of £1,200 on the railway? Yes.
142. Do you think that that loss would be soon wiped out? I think so, in a few years.
143. Have you had any applications to lease some of your property? No.
144. Would you lease any of it? No; I can work all my own.
145. I suppose there are large tracts of country in this district which would settle a larger population than is at present living upon it? Yes.
146. Would you go to Tamworth more frequently than you do now if the line were constructed? Yes.
147. I suppose other people would do the same? Undoubtedly.
148. Does the Manilla River flow near your holding? Yes.
149. Have you ever known it to be dry? I have known it to stop running, but it has never been dry.
150. *Mr. Roberts.*] Do you send all your wheat to Tamworth? Yes.
151. What is the rate of carriage? About 1s. 9d. per bag of 4 bushels; nine bags go to the ton.
152. That is about 15s. or 16s. a ton? Yes.
153. Have you any idea what the Railway Department would carry the wheat for? No.
154. If wheat were carried at 3s. a ton, I presume it would give a large impetus to farming in the district, and thereby tend to an increase of population? Yes.
155. *Chairman.*] Did you ever send any wool to Tamworth railway station? Yes; I carted it myself.
156. What is your average yield of wheat per acre? About 16 bushels.
157. Can you depend upon that? Yes; taking one with another.
158. How many acres have you under cultivation now? 250 acres.

Mr. Thomas Bowen, builder and contractor, Manilla, sworn, and examined:—

Mr. T. Bowen. 23 Mar., 1896.

159. *Chairman.*] How long have you resided in the district? Ten or eleven years.
160. What timber do you use for decking the bridges about here? Box and ironbark.
161. How does the box last? Very well. I have some specimens taken from Durham Court Estate, which have been in the ground for twenty-eight years. I have also some which the water has been running over for eighteen years.
162. Could timber suitable for sleepers be got out of box? Yes.
163. Fairly contiguous to the proposed line? Yes.
164. Have you considered the question as to what it would cost to get sleepers? They could be got here as cheaply as in any other place.
165. Where is the nearest ironbark? About 20 miles away.
166. Do you know the rate of carriage from there to here? No.
167. What length of time should good sound white box last? Thirty or forty years.
168. Do you know anything in regard to the rates of carriage from here to Tamworth? 1s. 6d. per cwt. is the general price for produce.
169. *Mr. Roberts.*] Do you think the sleepers for the proposed line could be delivered at a lower rate than they could be brought by rail, say, from Singleton? I think so. You could get a great number within 5 miles of the line between here and Tamworth, provided, of course, the Government would take box.
170. Do you think ironbark could be procured here for sleepers as cheaply as they could be brought by the railway? I believe so.
171. Is the ironbark timber of good quality? First-class.
172. Is it a further distance away than the box? Yes; the nearest ironbark I know of is 20 miles away.
173. Do you think box would be as suitable as ironbark for sleepers? Yes; my experience teaches me that box is a first-class wood in or out of the ground.
174. Where do you say is the box country? On both sides of the proposed line.
175. *Mr. Fegan.*] Where is the ironbark to be found? At Crow Mountain.
176. What would it cost to supply ironbark sleepers? Three shillings each, I think.
177. Is that a liberal allowance? I think it could be done at that price.
178. I suppose you are aware that the Commissioners object, as a rule, to other than ironbark timber? Yes.
179. Is there any other timber in the district? There is gum.
180. Do you think the construction of a line would open up a small timber trade? Yes.
181. What have you to pay for the cartage of timber from Tamworth? In small lots, 1s. 6d. per cwt.; in large lots, the rate is 20 or 25 per cent. less.
182. Has any fault been found with box-wood that you know of? No.
183. And you think it is as admirable as ironbark? Quite so. You will find it hollow sometimes, but you find that in ironbark. I may state we have a very fine gravel pit here. It is about 400 yards long. The average width is 30 yards, and it is about 3 feet deep. It would give you at a rough estimate 12,000 cubic yards of gravel on this side of the river, and it is easily accessible.
184. What is the height of the bank? Fifteen or 16 feet, but the contractor could run his line upon it very cheaply. I suggest that instead of using metal they should use gravel at the station-yard and approaches.
185. *Mr. Roberts.*] Is there much pine in the district? Not within 20 miles. We have a mill 16 miles from here cutting pine, but we have not got it in any great quantities.
186. Would it be suitable for station buildings? Yes.
187. Could piles for culverts be obtained? I am at present getting box piles from here for the purpose of building a Government culvert at Lahey's Gully. I can deliver the piles at Tamworth at about 10s. each. I estimate 5s. to cut them and 5s. to draw them.
188. What is the size of the piles? Twelve feet up to 13 feet, and as long as 34 feet.

Mr. John Barling, grazier, Upper Manilla, sworn, and examined:—

Mr. J. Barling. 23 Mar., 1896.

189. *Chairman.*] What area have you? 11,500 acres of secured land.
190. *Mr. Black.*] Have you increased your area since you gave evidence before Mr. Alexander in 1892? No. Crown land has been selected—about 3,000 or 4,000 acres by others, out of the area we were leasing at the time referred to.
191. Do you run as much stock as you did then? No, for this reason—we are trying the experiment of farming.
192. Have you more dairy cattle? No, not at all; but we have more horses for ploughing.
193. Is a large proportion of your land suitable for agricultural purposes? About 3,000 acres.
194. Under present conditions, would you be disposed to place the whole of that area under crop? Yes; more than half of it is under crop now, and it will not be long I hope before the whole of it is under crop.
195. I suppose you chiefly grow wheat? Yes; fodder as well.
196. Is the district more suitable for the growth of wheat than maize? Yes; maize is very uncertain.
197. What is the average per acre here? Last season was dry and reduced it, but up to this year it was supposed to be from 18 to 20 bushels, but this year there has only been half a crop. I should think 15 bushels is a fair average.
198. What is the average rainfall? For the last 11 years it has been something over 30 inches.
199. Is such an average as that sufficient for agricultural purposes? It is more than sufficient. Statistics show that the best of wheat is grown with an average of 20 inches. Averages, however, are most misleading. Sometimes we get no rain when it is most wanted, and afterwards we get a superabundance.
200. Do you not think that with better farming the average yield of wheat per acre of this district could be increased? I think so. It could be brought to 20 bushels per acre easily.
201. Has there been a tendency of late to increase the area under crop? Yes.
202. Do you think, if a railway were brought here, agricultural pursuits would make a further advance? Yes. I have 1,500 acres under cultivation now, but I hope before the railway arrives here to have fully 3,000 acres under crop.

Mr. J. Barling. 23 Mar., 1896.

203. Is that because you expect the railway? I cannot say it is because of that, but the railway will expedite it.
204. What do you imagine to be the greatest advantage to be gained by the railway? We could send away not only wheat and wool, but anything that could be produced. A farmer could occasionally send a single truck of sheep or cattle to Tamworth; but at the present it does not pay him to do so. It costs as much to send a few as it does 1,000.
205. I suppose the bulk of the land, which is not yet alienated, is not of first-class quality? No; it is the very roughest.
206. Nevertheless, it is accompanied with fairly good soil? Yes; it could all be utilised.
207. Is it stony? Yes; but it could be used by sheep.
208. Good second-class country? Yes; and capable of improvement.
209. Do you think that if the railway were extended in that direction there would be any demand for land of that character? Yes, I am sure of it, if one could increase one's holdings; but under the present Act one could not do so. If it were still open to be taken as "conditionals" where no residence was required, the whole of it would be taken up.
210. For instance, if Mr. Baldwin were permitted to remain at his present residence, to use the land surrounding his homestead, he could take up land further back? Yes; but that cannot be done under the present Act.
211. Does the area which would be served by the railway extend far north of Barraba? Considerably beyond.
212. Do you think the construction of a railway from Moree to Inverell would very much reduce the amount of traffic coming this way? No.
213. Do you think that even with the opposition of that railway the whole of the traffic south of Warialda would come to Manilla? I have been informed that it would, but I cannot speak personally.
214. Is that the impression of the district? Yes.
215. Has there been any large increase of population in the district? I have only been in the district eight years, and during that time it has increased very much, both naturally and by people coming here.
216. You are of opinion that the soil and climate are eminently suited for agricultural purposes? Yes.
217. And that the true capabilities of the district have not yet been developed? They have not yet been half developed.
218. And a railway is required for their best development? Yes.
219. *Mr. Fegan.*] Are you aware of the proposals of the Commissioners in reference to the carriage of grain and wool? Yes.
220. Do you know whether any of the owners of land have signified their willingness to give the land required for the construction of the line? Some have done so. Mr. Dow, near Tamworth, has said that he would give his freely. The report is also that Mr. Rodgers, of Attunga Station, would do the same.
221. Has there been any movement in Manilla and other parts of the district to provide the land? Yes; a deputation called on the different owners last week.
222. Did they meet with any success? The newspapers say they met with great success.
223. Do you think if that were the only difficulty in the way it would soon be got over by the residents of the district? Yes.
224. I suppose a railway would benefit the growers of wool and wheat? Certainly.
225. And it would induce settlement? Yes.
226. So that any immediate annual loss on the line would soon be wiped out? Yes.
227. Do you know whether the Railway Commissioners have taken into consideration the development of the copper and gold mines in the district to the north? I do not think they have.
228. What is the land along the route of the line worth? I would not like to estimate it. I have heard people say it is most unnecessary for the line to go close to their houses. Those who are not engineers think it can be moved so that it will interfere with no one.
229. Is there any opposition to the line? I believe there will be by people whose houses will be interfered with. People alongside the road naturally say, "Why not put it on the road instead of going through our land?"
230. But is there any opposition to the railway scheme? None whatever. The only complaint is of it going through small properties. Those with large areas have no objection whatever.
231. *Mr. Roberts.*] Do you own any land along the proposed railway? No; mine all lies to the north. If it is required when the extension is made I shall be glad to give it.
232. I suppose the district is thoroughly well watered by the Namoi and the Manilla? Yes.
233. And the land is admirably adapted for wheat-growing? Yes.
234. Is it easily farmed? Yes.
235. Does the quality of the wool compare favourably with that of other districts? Yes; it is always classed by the auctioneers as good. It does not go to the first-class, on account of grass-seed, which takes away very much from the value of it.
236. Do you produce much wool? About 100 bales a year. They are heavier bales than usual, and most people would call it 150 bales.
237. Where do you send it to? Tamworth.
238. How many fat cattle and sheep do you send annually? There is no regularity about it.
239. What is the rate of wool per ton to Tamworth? Thirty shillings from my own wool-shed, but it would be somewhat less of course from Manilla itself.
240. If the wool were carried from Manilla by rail at 7s. 6d. per ton, it would of course be a great advantage? Yes.
241. Do you think it would be likely that those who send a wool a considerable distance now—say from Warialda, or even from the Queensland border—would unload at the Manilla station, or go straight on to Tamworth? I have no doubt they would unload here.
242. After all, it would be a matter of £ s. d.? Yes.
243. Is your homestead adjacent to the road? Yes.
244. Is there very large traffic on the road? Yes; wool is the chief item. The wheat, however, will soon greatly outweigh the wool traffic.

245. I suppose the construction of a line to Moree would somewhat interfere with the quantity of wool sent to this district? I am told by those who draw it that it will make no difference whatever. They prefer this route to any other route. It is a favourable route for carriers, inasmuch as the road is good. Mr. J. Barling. 23 Mar., 1896.
246. Do you think the district would soon increase in population by farmers leasing the land if the railway came here? I do.

Mr. Michael Francis M'Keown, farmer, Mountain View, Manilla, sworn, and examined:—

247. *Mr. Fegan.*] How much land have you? 740 acres conditional purchase and conditional lease. Mr. M. F. M'Keown. 23 Mar., 1896.
248. How long have you been in the district? Twenty years.
249. Have you seen the population increase considerably? It has almost trebled.
250. Is your land under cultivation or used for grazing purposes? Both.
251. Do you grow any wheat? About 60 acres. I have 100 acres fit for the plough now.
252. What price did you obtain for it last year? Two shillings and three pence was the ruling price in Tamworth; this year it is about 4s. 3d.
253. Do you know the route of the proposed line? Yes.
254. Does it run through good country? Excellent.
255. Is it good for settlement? The greater part of it is.
256. Will it support a large population? Yes.
257. What sort of a country is that upon which you live? It is equally as good as that through which the line will travel.
258. You live on the Durham Court Estate? Yes; 7 miles from here. The nearest point of my land is about 5 miles from here.
259. And all the land from there to here is good agricultural country? 20,000 acres of Durham Court are excellent agricultural land.
260. How many men do you employ? Generally, two.
261. If railway facilities were given I suppose you would employ more? Yes; three times as many. I should require to clear further land, which means, of course, expenditure of money.
262. What reasons have you for saying a railway should be constructed? The importance of the district and further prospect of settlement.
263. What do you mean by the importance of the district? There is a large number of settlers on the land, some of whom are crippled for want of facilities to bring their produce to market.
264. You do not think grazing is the best use to which to put the land? No; it is not paying at all, because the price of stock and horses is very low now.
265. And you think a country like this should be put to such use that it will feed the people instead of the cattle? Yes.
266. Do you think it will pay both owner and every one else concerned to devote the land to agriculture instead of to grazing? That is my impression.
267. How often do you go to Tamworth? Six or seven times a year.
268. If you had a railway would you go more frequently? Yes.
269. I suppose you cannot grow much wool? The grazing capacity of the land in its improved state is about two sheep to the acre.
270. Have you heard that the Commissioners intend to carry wheat at 3s. per ton? Yes; it will be a great boon to farmers and the public in general.
271. And you, for one, would be only too willing to use the railway at those rates? Yes.
272. It has been said that some people might not unload their drays until they got to Tamworth? I think they would.
273. *Mr. Roberts.*] What is your average yield of wheat to the acre? From 15 to 20 bushels.*

Mr. Leonard Bailey, farmer, carrier, and produce dealer, Manilla, sworn, and examined:—

274. *Mr. Roberts.*] Where do your teams ply? From Tamworth to Manilla and back. I am not, of course, confined to the town alone. Mr. L. Bailey. 23 Mar., 1896
275. Do you go further north than Manilla? I used to do so, but I have not done so of late.
276. What is the present rate of carriage for wool from Tamworth to Manilla? About 25s. per ton for anything close to the town.
277. How long has it been 25s.? The last year or two it used to be 30s.
278. Is there any chance of the price being raised or lowered? I do not think it will get any lower. At all events it will not pay the carriers if it is lower.
279. If the railway were to carry wool at 7s. 6d. per ton, do you think the carriers would still continue on the road? I do not think so.
280. Do you think the teams carrying wool from Warialda or the Queensland border to Tamworth will unload here? I think they would.
281. *Chairman.*] Have you any doubt about it at all? None whatever. I have seen a load or two go from here to Morpeth, but it is an exceptional thing, and may have been only an experiment.
282. Is this a favourite route for carriers from the far north? It is.
283. Is there a very large traffic on the road at the present time? Yes; principally wool.
284. Is there a large quantity of merchandise coming from Tamworth? Yes.
285. Are you, yourself, favourable to the construction of the line? Yes; I am not opposed to it.
286. Have you any property in the district? Only a house in town.
287. I suppose that, personally, it matters very little to you whether the line is constructed or not? That is so. I have a business, and it may help me, and it may not.
288. What is the cost of carriage of wheat from Manilla to Tamworth? About 9s. a ton.
289. Have you carried wheat at that price? Yes.

* NOTE (*on revision*):—I wish to add in contradistinction to others who gave evidence, that there is splendid agricultural land unalienated within the parishes of Baldwin, Dinawirindi, Dowe, Willan, Rangiri, and Borah, which, if thrown open to settlement, and in suitable areas, would be taken up and a further number of yeomanry would settle on the soil. Instead of having it locked up in a number of reserves, and in the interest of monopoly, I for one am in favour of having it made available for settlement.

Mr. L. Bailey. 23 Mar., 1896.

290. Is it a paying price? No; I only take wheat at that price when I am going in for a load of merchandise. Nine shillings per ton is the lowest price I have ever heard of, and it is only within the last year or two that it has come down to that.
291. Do you contract for carriage by the ton? We draw by the bag.
292. How much a bag? It varies according to the distance from town, from 1s. to 1s. 9d. and 2s.
293. What is a fair price to pay for wheat carriage from Manilla to Tamworth? From £1 to 25s. a ton.
294. I suppose it is a rare occurrence for a man to get his wheat carted at 9s. a ton? Yes.
295. If a farmer could get his wheat carted by rail for 3s. a ton, it is not likely there would be any carriers on the road? I should think not.
296. And there would not be much probability of general merchandise being carried by road if the railway carried it for 5s. a ton? I should think not.
297. I suppose it would not pay a carrier to go down 3s. a ton in the carriage of wheat, and only get 5s. a ton for the carriage of merchandise on the return journey? Certainly not.
298. Can you give us any idea of the number of bales of wool which pass through Manilla to Tamworth annually? From 15,000 to 20,000 bales. That estimate was obtained from the Tamworth West railway station, with a deduction of about 2,000 bales which are loaded around Tamworth.
299. How much of that wool comes from north of the Nandewar Range? I should say the bigger half comes from the other side of it.
300. Does some of it come from the Queensland border? Yes.
301. Would the construction of a line to Moree make much difference in the number of bales brought to Tamworth? It might make a little difference, but not much.
302. How many bales go to the ton? There is a difference in their weight, but I suppose about six.
303. *Mr. Roberts.*] If it has been estimated that about 6,000 bales of wool might possibly go to Moree when the railway is constructed to that place, do you think the estimate is fair? I do not think they would get that much to Moree.
304. Do you think a great number of carriers would still keep to this road on account of its excellent character? I think they would, instead of going to Moree.
305. Does much hay go from here to Tamworth? No, it would not pay to send it.
306. I suppose it would, if a railway were opened? I think so.
307. Have you heard of anyone being anxious to lease his land if it is available? Yes; I know there are people who are trying to get land for cultivation on the rent or half system.
308. Is there any land about here being worked on the half system? I am working some on that system myself.
309. Where? On the other side of the Namoi River.
310. How many acres are you working on that system? 150 acres.
311. What is the average yield per acre? Last year it was low, but in the two previous years it was over 20 bushels. Last year it went down to 9 or 10 bushels.
312. At what do you estimate the average for the district? Sixteen bushels.
313. *Mr. Fegan.*] You say you carry wheat to Tamworth at 9s. a ton only when you have merchandise to bring back? Yes.
314. You would not carry at that price if you had nothing to bring back? No.
315. What would you charge if you had no merchandise at the other end? Twenty-five shillings a ton.

Mr. Alexander Rogers, grazier, Attunga, sworn, and examined:—

Mr. A. Rogers. 23 Mar., 1896.

316. *Chairman.*] How many acres of land have you? About 20,000 freehold and conditional purchase adjacent to the proposed line.
317. How much is fit for growing wheat? 12,000 acres.
318. Do you think it would be more profitable to use it for growing wheat than for running cattle or sheep upon it? Very much more.
319. Do you think you would be able to so use it were a railway built from Tamworth? There would be no difficulty except in regard to obtaining purchasers, or tenants to rent it. I would be only too glad to cut it up to rent or sell.
320. Do you believe you would be able to part with your land by sale on long terms, or lease it at such a price as would enable farmers to live? To the latter part of the question I would say yes; but to the first part I am not prepared to give an answer. It would depend on the surroundings, and on whom the purchaser was.
321. Would there be a demand for such land as you have? Not amongst the residents around me. There is too much good land to get at the low price they can obtain it from the Government. Whilst there are cheap Crown lands they would not take my land at the price I would want.
322. Where are the Crown lands to which you refer? In the parish of Halloran which adjoins me.
323. How far away is the nearest Government land, equal in quality to yours? I do not know that the land I speak of on the Namoi is equal in quality to mine, but I think it is equal in quality for wheat growing.
324. And is there much Government land available? I am not prepared to say; but there has been a considerable amount taken up in the last two years up the river.
325. Is your land immediately along the proposed railway line? Yes.
326. How far from the proposed line is there any fair area of Government land? I do not think there is any within 14 miles.
327. Do you think that that land would come into competition with land immediately alongside the railway? The circumstances being equal it would not.
328. Do you know the Tamworth district fairly well? Yes, on the side on which I live. Land offered to lease is readily taken up within 2 or 3 miles of Tamworth; but land 12 miles away is not so readily leased.
329. The railway carriage from Attunga to Tamworth for wheat, would be from ¼d. to ½d. per bushel. Therefore if your land gives 20 bushels to the acre, your land ought to be worth within 6d. an acre of that against Tamworth? That is so. I look upon my land as a little under the value of the Tamworth land as it stands. Of course there are other important considerations which farmers look at in renting land.

land. Take my place as the centre of the district of 10 miles radius. The people can only market their grain. They make nothing of the refuse of a farm, such as chaff and straw; but the people who live near Tamworth can find a market for every straw that grows. It would not pay farmers living near me to carry it in that distance. My house is about 12 miles from Tamworth. Mr. A. Rogers. 23 Mar., 1896.

330. Do you know where the proposed line is located? Yes.

331. Will you allow the land on the south side of the creek to be taken for the purposes of the line? I will not object.

332. After passing Attunga Creek there is a deviation to the west, cutting off 300 or 400 acres? Yes.

333. The road is 100 feet above that, and it is not possible to bring the railway along the road there; therefore it will be necessary to make a deviation; do you know that deviation? Yes.

334. Will you have any objection to the land being taken there? No; I must make a virtue of necessity. It seems to be the proper track for a railway. I have someone else to consult in the matter, but as far as my interest is concerned I will offer no objection.

335. Then you personally are prepared to give the land on the large deviation, coming up from Attunga Creek, or say, the first 2 or 3 miles or more? The deviation continues for nearly 4 miles.

336. Is there anything more you would like to say? Only that the areas of agricultural land go on increasing. From Attunga, looking west towards Somerton, on the north side of the Peel River, it is all an agricultural district.

337. Would the Somerton people come to Attunga, or go straight to Tamworth? When I was amongst them, those on the north side of the river stated they would come to Attunga. I think they would come all the way from Keepit.

338. Is there any population from Attunga to the east? Yes, there is a river population, and the farming population I speak of, in the parish of Halloran, is behind the Attunga Creek. A considerable amount of wheat is cultivated there. At present at least twenty farmers bring their produce to the main road.

339. But the great increase of production immediately surrounding Attunga would be dependent upon your action in allowing the farmers to get your land? That is too great a compliment to saddle me with. I should be glad to facilitate the advance of the people in every way possible.

Mr. Alfred Horatio Sampson, farmer, Upper Manilla, sworn, and examined:—

340. *Chairman.*] How far do you reside from Manilla? Nine miles. Mr. A. H. Sampson.

341. Have you been long in the district? Since 1879. 23 Mar., 1896.

342. *Mr. Fegan.*] Have you any statement to make to the Sectional Committee? I have nothing to add to the evidence I gave before Mr. Alexander, excepting that the cost of carriage was a little more then than it is now. Now there is more cultivation being carried on. Much of the land too, since that time, has been let to tenant-farmers. In contradistinction to what Mr. Rogers has said with reference to the facility of leasing land 12 miles from Tamworth, I may state that the land here leases very readily indeed to tenant-farmers. I know dozens of instances in which persons have written here asking for land. At present, owing to the difficulties of carriage, we are confined almost to wheat-growing, whereas if we had a railway by which we could get straw and other things away, the line would make work for itself.

343. Has there been any new settlement in the district since 1892? Not to my knowledge, except in a few cases.

344. Has there been much increase in population during the last few years? No.

345. Carriage by road is cheaper than it was? Yes.

346. But it is not so cheap as the railway carriage would be? No; the carriage as I calculated it in 1892, on the basis of the carriage from Tamworth to Sydney, would be 10½d. on 20 bushels. I may state that although there has not been much increase in what you may term outside population, a number of young men have grown up in the district, and they are the persons who have entered largely into cultivation. They have rented farms, in addition to taking up selections themselves. I may state that if the landholders give the land for the purpose of the construction of the railway they are not prepared to make it freehold. They think the State should make their own titles secure.

TUESDAY, 24 MARCH, 1896.

[*The Sectional Committee met at the Court-house, Manilla, at 10 a.m.*]

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.
George Black, Esq.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

Mr. W. J. L. Kyle, post and telegraph master, Manilla, sworn, and examined:—

347. *Chairman.*] How long have you been here? Eight years. Mr. W.J.L. Kyle.

348. Have you any information to give the Sectional Committee? Yes, I have prepared a few statistics, which I have put in narrative form. The population of the town is 402, and for the electoral division of Manilla 1,650, but as Somerton and Keepit are in the Tamworth electorate, although belonging naturally to Manilla, we are, in a sense, deprived of 200 people that rightly belong to us. Hence it may be said a local population of 2,000 would be served if the proposed line were constructed.—Wheat; The total yield of wheat for the Police District of Manilla, in 1894, was 156,390 bushels; but owing to the severe drought which prevailed here, in common with other parts of the Colony, the yield for 1895 was only 71,273, but had the season of 1895 been anything like as good as previous seasons right back to 1887, it is only fair to estimate that the yield would have been close upon, if not actually, 200,000 bushels. The average yield for county Darling is set down in the Statistical Register at 16; but as Barraba is included in county Darling, and the yield per acre at Barraba is not so high as at Manilla, it is believed by many competent to judge that the average yield for Manilla is nearer 18 bushels to the acre than 16, as published. 24 Mar., 1896.

Mr. W. J. L. Kyle. 24 Mar., 1896.

349. In your opinion would all that wheat come through Manilla? I believe it would. That estimate, of course, is from the Manilla portion of county Darling alone. The figures I give are correct approximations, and are taken from a district about 20 miles around Manilla as a centre. For 1895, the police return the number of holdings at 231, and those holdings comprise an area of 182,883 acres of freehold and 104,980 acres of Crown lands, such as conditional leases, &c., or a total of 284,863 acres. Wool: In 1893, 14,000 bales of wool passed over the Manilla bridge; but this return would not include what might be termed locally-grown wool, as most of that would not pass over the bridge. Estimating the quantity grown on this side of the river at 2,000 bales, and allowing for a quantity that might have escaped the notice of the maintenance man (who counted this number of bales whilst at work on the road), it can be said that 17,000 bales of wool were carried through Manilla in 1893; but as the number of holdings has since increased, it is believed that nearly 20,000 bales would be handled at the Manilla Railway Station if the line were constructed.
350. How many bales go to the ton? About six.
351. Therefore, you estimate that 3,000 tons of wool would be handled at Manilla Station? Of course I only take my estimate from the evidence given before Mr. Alexander, in 1892, and that was for wool which passed over the Manilla bridge. Then there is the Ukolan, Durham Court, Borah, Keepit, and other large stations on this side of the river, besides a number of small graziers. Maize—County Darling: I find from a return supplied by the Government Statistician's Department that a total area of 1,512 acres was cultivated in 1895, divided as follows:—Manilla, 750 acres; Barraba, 615 acres; and Somerton, 129 acres; and the average yield per acre is set down at 22 bushels. Live stock (also from the Government Statistician's Department) for the county Darling—this return is for the year ending March, 1896: There were 5,387 horses, 1,008 milch cows, 18,060 ordinary cattle, and 405,329 sheep, notwithstanding the great mortality which prevailed amongst stock in this district through the severe drought.
352. *Mr. Roberts.*] Do you know how much land is cultivated around Manilla? 9,218 acres were cultivated, including Upper Manilla, in 1895. This year (1896) the amount is 8,316 acres. I should say, however, that the whole of the land which will be put under cultivation this year has not yet been touched. These figures include Manilla and Upper Manilla, from the fall of the water from here to Tamworth, and from here to Tarpolly Creek. The estimate does not include Attunga and Barraba. These figures show land actually under crop. In addition to the area given to the police whilst collecting the returns, I am informed that there are quite 2,000 acres more actually under wheat. There has been an increase in holdings since Mr. Alexander was here in 1892, and also a very large increase in land under cultivation.
353. Do you occupy any other position in Manilla than that of post and telegraph master? I am a member of the Railway League.
354. Can you give us any information as to the increase in the value of property? When I came here eight years ago, an allotment of land 150 yards from this building was offered to me for £50. The same allotment was sold two or three weeks ago to Mr. Odell for £100, so that it has increased 100 per cent. in eight years.
355. Do you look upon this district as a prosperous one? I look upon it as one of the most prosperous districts in the Colony.
356. Do you think, if a railway were constructed, there would be a large increase in the population—more especially of persons desirous of farming land, which they would probably be able to lease from the large holders? I think a great quantity of land would be thrown open to those desirous of going upon it.
357. *Mr. Fegan.*] What increase of business has there been in your Department during the last eight years? It has increased sixfold.
358. *Chairman.*] What is the rainfall of the district? The mean average when I came here was 27 inches, but it has increased a good deal since then, and it is now over 30 inches. In 1892 it was 31·16 points. I can safely say that the mean average is now 30 inches. During the eight years I have been here we have only had one drought, and notwithstanding that we got 26 inches, but it was not evenly distributed. From the 31st December, 1894, to the 26th January, 1895, we had 12 inches; then we had only 2 inches until August; and then heavy rain from August to December.
359. *Mr. Black.*] I suppose the mails are carried by contract with the coach-driver? Yes; the contract is from Tamworth to Warialda.
360. What does the Department pay yearly for the carriage of mails? £1,500.
361. If the railway were brought here the Postal Department would, I suppose, pay the Railway Commissioners for the carriage of mails? Yes.
362. Do you know whether the rates of mail carriage by rail are lower than they are by road? I could not say.
363. Have you any idea as to whether there would be a saving to the Department? I believe there would.
364. How far is it from Tamworth to Warialda? 130 miles.
365. What is the time occupied in transmitting the mails? Twenty-six hours.
366. And how much from Tamworth to Manilla? Five hours.
367. *Chairman.*] Then they travel as fast from Manilla to Warialda as they do from Tamworth to Manilla? At the same rate.
368. Then the inference is that the road is pretty good all through? I think until recently the road has been better at that end than this.
369. *Mr. Black.*] The passengers by coach from Tamworth to Manilla are five hours on the road? Yes.
370. Would they be satisfied with a train service which took them the same distance in one and three-quarter hours or two hours? I think so.
371. Do you think the people here would be satisfied with one of the light lines which are so common in some parts of America? I think so.
372. They would prefer a light line to none at all? Certainly; they would be satisfied with anything in the shape of steam.
373. I suppose one of the smaller engines, drawing one composite carriage and four or five trucks daily, would be ample for the traffic? Yes.
374. If the railway ran to Manilla, I presume that those who came down from Bingera and Barraba in their own traps would leave their traps here and go on? Yes.
375. Seeing that there is no likelihood of an extension beyond Manilla, and the traffic is not likely to be as heavy as on the main lines of the colony, do you not think a light line of railway would amply meet all the requirements of the district? I think it would.

376.

Mr. W.J.L. Kyle. 24 Mar., 1896.

376. *Chairman.*] What is the fare from Manilla to Tamworth by coach? Five shillings for a single fare, but prior to this year it was 10s. It has been reduced by competition.
377. Does it pay to carry at 5s.? I do not think it does. I may say, however, that there is one coach-driver here who is quite satisfied with that charge. Still it depends a good deal upon parcels. The rate appears to be rather low.

Mr. Alfred Stafford, store manager, Manilla, sworn, and examined:—

Mr. A. Stafford. 24 Mar., 1896.

378. *Chairman.*] Have you taken an interest in the construction of a railway to Manilla? Yes.
379. Have you occupied any official position in connection with it? I am only one of the members of the League.
380. In accordance with the desire expressed by the Railway Commissioners, you lately interviewed the people along the road from Manilla to Tamworth? I did.
381. Will you inform the Committee of the obstructions in the shape of houses that you found on the route of the proposed railway? Going from here the proposed line, for the first 9 miles, goes through four houses and through the centre of all the cultivation land.
382. What are the names of the owners of the houses? The first is Bignell. It runs right through his cultivation land and through his house. The next is Donnelly. It goes right through his house, but does not interfere with his cultivations, with the exception of a piece which he has just put under cultivation. The next is Short. It goes through the house, but not through any cultivation. The next is Sneddon. It runs through a dam close to the house, on which he depends for water, but not through the house. Passing Sneddon's, it goes on to a reserve for about 1½ or 2 miles; then it touches Norriss'. It goes almost through one house and about ½ chain at the back of another house belonging to him, and right through his land. Then it goes to Ahearn's, through his land and close to the house, but not through it. The next place is Muggleton's. It does not touch the house there. The next place is Hill's. It goes through his cultivation.
383. Have you now enumerated all the improvements in the shape of buildings which will be interfered with? Yes; there are a few pieces of cultivated land at the Tamworth end which it would pass through—that is outside the municipal boundary.
384. Tell us what fortune you had in interviewing these men? Bignell would not give the land.
385. *Mr. Black.*] What is the reason for not giving the land,—because of the destruction of his house and the interference with his cultivation? I think so; I believe that was his only objection. The next piece is Donnelly's; it runs through his house, and that is an objection, but he is prepared, as far as we know, to give the land if the line were moved a little further away. He would rather have it run through the centre of his land than that his house should be taken.
386. *Chairman.*] If the line went on the other side of the road he would not object? Not necessarily on the other side of the road, for he is inclined to give the land if it goes further down on the same side of the road as his house. Short has promised to give the land. The line does not interfere with his house. Sneddon's place is just about changing hands, and we did not see very much of him about it; but the man who has bought the house has bought it, I think, because he thinks the railway is coming.
387. Do you believe the land would be obtainable? I believe the man who has bought it would give it, but I do not know. Sneddon himself would not give it. Norriss would not give, but he does not want a railway. He is keeping an hotel. Ahearn has promised to give the land, although the railway goes close to his house. The next piece belongs to Muggleton, and we do not know whether it would be given. It is only a piece from 15 to 20 chains wide. Hill said he would give his land, but he would not make a promise. The next place belongs to a widow named Carey. One of her sons told us he was almost certain she would give the land, but she was not at home. The next piece belongs to Mrs. Byrne, but we could not see her. The next piece is portion 48 and 49, adjoining the village of Attunga. The owner is away on the Hunter. Then there is a large reserve of ½ mile which the line passes through. The next place is Quick's. He would not make a definite promise, but we understood from him that he would give it. Hall said he would not give his property, and so did Sneddon. The line will not interfere with his house, cultivation, or anything else, but he does not want his land cut up. Muggleton's property is in the hands of a trustee, and we could not ascertain anything about it. The line runs through the middle of Brown's cultivation paddock; he is not inclined to give the land, but he said that if it could be run through some other cultivation across the road he would give it. The next is Dow's, which is in the hands of four trustees. We saw one of them, and he said he could not state what the others would do, but he was not prepared to give it. That is as far as we went—to the municipal boundary of Tamworth; but inside the municipal boundary there is one piece belonging to Mr. George Dow, and he has promised to give it.
388. Supposing the railway as far as Attunga were made contiguous to the road, would that remove the objections these people have? In some cases it might, but with most of them the houses are close to the road.
389. How many houses are there within a chain or two of the road between Tamworth and Attunga? Three.
390. Are they outside the town boundary? Yes; there are two almost on the road, and one very close to it.
391. Would it be possible to so construct a railway that individual objection would cease? Not on the same side of the road as it is measured now. Some of the people look at it in this way: there is vacant land on one side of the road, and still the line is surveyed between Attunga and Tamworth through their houses and cultivation paddocks on the other side.
392. Do you think it possible to so locate the railway between Tamworth and Attunga that all objection to severance and the giving of land would cease? I could not say.
393. *Mr. Black.*] How many stores are there here? Three.
394. I suppose they bring their goods by team from Tamworth? Yes.
395. And to the people further on, of course? Yes.
396. If the railway were constructed, would the storekeepers bring their goods by train? Yes.
397. Would the people further on, at Barraba and elsewhere, also bring their goods as far as the Manilla terminus? I can say yes to that, because I have seen all the storekeepers.
398. I suppose if the goods came by train to Tamworth they would not be transhipped there, but would be brought on in the same truck? I should think so.

399.

Mr. A. Stafford. 24 Mar., 1896.

399. Have you any idea how many tons of goods come yearly by road to Manilla? About 150.
400. And what quantity passes through the town to the townships further on? I could not say.
401. I suppose a large number of the landowners buy direct from Sydney? Yes; as far as the quantity of stuff coming to the town is concerned, I may state that there are no heavy goods, such as wire, iron, and rock-salt, kept here. The station-owners take their wool to Tamworth, and bring things of that kind back with them.
402. So that it is impossible to say what is the quantity of road traffic from Tamworth to Manilla? No; for the simple reason that from two roads they can get upon the Tamworth road without passing through here. There are roads cutting into the main road about 4 miles from here.
403. Do you think the traffic from Tamworth would be equal to the traffic to Tamworth? It would not.
404. Would it be two-thirds? It might be.
405. Do you think there would be any objection to bring the railway upon the road? I do not think there can be any objection to that, so far as the people are concerned.
406. Do you think the road all the way is sufficiently wide to carry a railway, without interfering with the ordinary traffic? I think it is, nearly all the way.
407. There are not many engineering difficulties to prevent it being brought along the road? In some places there are, but they do not extend over a large part of the road.
408. Would it be possible, at such places, to leave the road for an easier track, and then return to the road further on? Yes. There are two places that would be difficult; but the one which is most difficult has a reserve on either side of the road.
409. Therefore it would not be necessary to resume land? No; and in the other place it would run through Mr. Rogers' property on the Attunga Run.
410. Do you know the road for about 2 miles immediately out of Tamworth? Yes.
411. There is a considerable declivity? Yes.
412. That, possibly, would be the most expensive part of the line if it were brought along the road? I suppose it would.
413. Do you know of a route which could be taken out of the town in order to get on the level, without climbing that part, where the land could be obtained free? On the right-hand side coming out of the town, just where the line comes on to the road. It was suggested at one time to keep it a little to the north-east; that would bring it higher up the hill than is now proposed.
414. You think, then, that if the line were brought directly out of the town on the road it would necessitate heavy cutting? It would; in fact you could not bring it right along the road. Of course you could do it where the projected line strikes the road.
415. Do you think the proposed site of the station at Manilla is a fairly central one? Yes.
416. Is it situated in that part of the town towards which development would extend? Yes.
417. I suppose the town is growing in a southerly direction? Yes; in a south-easterly direction.
418. Possibly, with the construction of a railway, it would have a greater tendency to grow that way? It must extend that way; there is no other way to go.
419. You think, then, that settlement on the other side of the river—that is in the building of houses—is not likely to go on? No; the principal part there is very low land.
420. Virtually, the construction of a station on the proposed site will not be prejudicial to the other side of the river? Not in any way.
421. *Chairman.*] Is it possible to construct any other railway which will develop what you regard as the resources comprised in the county of Darling? No; no other railway could affect this, and this would not affect any other railway.

Mr. William Hill, farmer and grazier, Upper Manilla, sworn, and examined:—

Mr. W. Hill. 24 Mar., 1896.

422. *Mr. Fegan.*] Have you anything to add to the evidence you gave before Mr. Alexander in 1892? Very little, except that since then much more land has been cleared for cultivation.
423. How many acres have you? About 5,000. I have 240 acres under cultivation.
424. How many men have you working for you? Nine at present. The average number during the year is three; then there are myself and family, including one son.
425. Would the majority of the people at Upper Manilla be glad to unload their stuff at Manilla? I know that everything I have will be carried by train.
426. What was the average yield of your wheat crop last season? Sixteen bushels. The largest I have ever had was 32 bushels. For six years I cultivated 40 acres, and the average was 25 bushels.
427. Then you could not get much better country than this? I do not think there is any better in the colony for wheat growing.
428. And with improved facilities for carriage there would be a larger acreage under cultivation? There is not the slightest doubt about it, because the pastoralists find that by letting the land they make more out of it. Up the Namoi River there are some few thousand acres fit for cultivation, but up to the present time little has been cultivated.
429. What is the average wage paid for labour? It has come down to 12s. and 15s. a week.
430. Is that looked upon as a good wage? Fifteen shillings is looked upon as a good wage at present. I am paying two men £1 a week; the other is engaged in contract work.
431. To what was the reduction of wages due? To bad seasons; everything has been low for some time.
432. Should the railway be constructed it will be of immense gain to the producers of the district? No doubt.
433. If the farmers are placed in a better position by the construction of a railway, are they likely to pay better wages to their workmen? I could not say.
434. If better times come from the construction of a railway, should not some one else share it with you? There will be more labour engaged, and if prices go up I have no doubt wages will also go up.
435. *Mr. Roberts.*] In the statement you made to Mr. Alexander three years ago you said you had 40 acres of land under cultivation, but that you had altogether 500 acres of cultivable land, and would be likely to extend the area;—have you thought it wise to do so? I have cultivated since then 170 acres, and I am now clearing 120 acres with a view to further cultivation.
436. What do you produce, as a rule? Wheat.

437.

Mr. W. Hill. 24 Mar., 1896.

437. What do you pay for carriage to Tamworth? One shilling and sixpence a bag. My farm is 13 miles beyond Manilla by the dray road.
438. Do you produce any wool? Yes.
439. How many bales do you send annually to Tamworth? Seventy or seventy-five.
440. What carriage do you pay? One shilling and sixpence per cwt.
441. I notice that in your statement to Mr. Alexander you say that forty-six selections, chiefly of red soil, were taken up, and that you believe a large number of them would be cultivated, as they had large areas of cultivable land? Yes; several of these farms have now large areas of cultivation on them.
442. I understand that the country is more suitable for the cultivation of wheat than of any other cereal? Yes.
443. Is all the good land in the district taken up? It is. There is very little good land that I know of that is not taken up.
444. If some of the large holdings were cut up into small farms with a view to being leased, do you think they would be readily taken up? Yes.
445. Has there been a demand for land in the district? Yes; there are young people who, if they can get the land, will take it instead of going away to look for work.
446. Would it pay the pastoralists better to lease it out? I think so.
447. What would be a fair rent per acre for wheat-growing land within a reasonable distance of the proposed railway? I could not tell you; but Mr. Barling has let some, cleared, I think, at 6s. an acre.
448. Is there much land being cultivated in the district on what is known as the half-system? I have 140 acres adjoining the town on halves. I do not know of anyone else who has let it on halves.
449. What return per acre do you get? About £1 an acre. That is only in regard to the cultivated land.
450. Is that on the half-system? Yes; you make about £2 an acre net off the crop.
451. Do you regard that as a satisfactory return? Yes. Of course you would not make that after paying expenses.
452. What is the carrying capacity of your 5,000 acres? About one sheep to the acre. I have 5,000 sheep upon it. I may say I have improved my land very much.
453. Is the land in the district well suited for dairying purposes? Only fairly so.
454. If the railway were constructed would you send all your produce to Manilla for conveyance by it? Yes.
455. Do you get your supplies from Tamworth? Yes.
456. Have you any reason to anticipate that the carriers would be able to carry your merchandise or produce at a lower rate than the railway? No; they would not carry it at the price Mr. Eddy stated when he was here.
457. Were any figures supplied as to the probable cost of railway carriage? Wheat, I think, was put down at 3s. a ton, and cattle at 10s. a truck.
458. Would 7s. 6d. per ton for wool and 5s. per ton for general merchandise be a reasonable rate? Yes.
459. Do you look upon 3s. per ton for wheat and hay, and 8s. 6d. per truck for stock, as satisfactory prices? Yes.
460. In what direction is your property? About 9 miles from here in a northerly direction.
461. Is there a large traffic on the road from Barraba to Tamworth? Very.
462. Do you know that as a matter of fact? Yes; I have been thirty years here, and should know something about it.
463. Can you tell us anything as to the increase of traffic or otherwise from the Queensland border to Tamworth? No; I could not. I have been twenty years where I am now, and, of course, I have very little communication with the road; but last Sunday when I was going up, there were ten heavily-loaded teams between here and Upper Manilla.
464. There is an immense traffic on the road from Manilla, Barraba, Bingera, and much further north? It goes out to Gundawindi.
465. Is this a favourite road for carriers? Yes; especially in wet weather.
466. Is that on account of the excellent road and the good supply of water? Yes.

Mr. John Fitzgerald Finn, licensed surveyor, Land District of Tamworth, sworn, and examined:—

Mr. J. F. Finn. 24 Mar., 1896.

467. *Chairman.*] Do you know the county of Darling? Yes.
468. There is a considerable area of land in the county yet unalienated;—can you make any statement as to the effect of the construction of a railway to Manilla on the area in question? There are more than 200,000 acres of land unalienated in the whole county. It is principally broken grazing country, and I think if it were cut up by the Crown into areas of 2,560 acres, it would be readily taken up by selectors under settlement-areas, and the stock they would keep there would come upon this road.
469. How do you come to the conclusion that the construction of a railway to Manilla would have a definite effect upon those lands? For the reason that there is no other way for the people to come.
470. Taking Manilla as a centre, how far ought it to command the trade to the east, to the north-east, north, west, and north-west? It would be bounded pretty well by Bendemeer, and, generally speaking, 60 or 65 miles round Manilla—I consider it will command a trade to a distance of 35 miles north of Barraba. Towards the west and south-west it will go below Keepit, and right down the Namoi River.

Mr. Andrew George Gardiner, farmer and grazier, Manilla, sworn, and examined:—

Mr. A. G. Gardiner. 24 Mar., 1896.

471. *Mr. Roberts.*] What is the size of your holding? 2,400 acres.
472. How many acres have you under cultivation? 200 acres.
473. How long have you been in the district? Four and a half years.
474. What is your average wheat crop? I have grown up to 22½ bushels, but last year cut it down to about 12, owing to the dry weather.
475. Do you grow anything else? Yes, oats and barley.
476. How far is your property from Manilla? It is adjoining the town.
477. Do you send your produce to Tamworth? Yes, the whole of it.
478. What price do you pay for carriage? About 9s. a ton for wheat.

Mr. A. G. Gardiner. 24 Mar., 1896.

479. Can you always get carriage at that price? Not always.
480. What is the highest and lowest you have ever paid for carriage? Nine shillings is the lowest I have ever paid. About 10s. 6d. is the highest.
481. Are you anxious for the construction of the railway? I should like to see it constructed.
482. What is your reason for that? I have about 1,100 acres of land fit to cultivate and it does not pay me at the present rate of carriage. I have had a few applications to let land out on lease, provided the railway is constructed. Therefore, it will be a benefit to me and the community at large.
483. Do you think there will be a large quantity of land leased, if the railway is constructed? Yes.
484. Is it a fact that the large holders of land would throw open their lands to lease? I think they would throw a great deal open.
485. And there would be a large increase of population in the district? Yes.
486. Have you any knowledge of the traffic along the line of route from Tamworth, through Manilla, Barraba, and Bingera on the way to the Queensland border? There is a lot of traffic between Tamworth and Manilla.
487. What is the principal carriage? Wool and grain, and sometimes a few loads of copper ore.
488. Do you think the cultivation of wheat would be largely increased, if railway communication were afforded? Yes, on account of the lowness of transit.
489. Is there much general merchandise brought from Tamworth to Manilla and further northwards? A great deal.
490. How many acres have you under barley? About 20.
491. How many acres under oats? About the same.
492. How many bushels do they yield per acre? Twenty-six or 27.
493. Is the land about here suited for growing wheat and barley? More so for wheat, but I think it will grow oats. I have been satisfied with what oats I have grown.
494. Is your land better than the greater part of the land about here? No.
495. Have you taken an active part in connection with the Railway League here? I have been appointed a member of the Committee.
496. Is your land freehold or conditional purchase? Conditional purchase, excepting a few acres.
497. How many bad years have you had in the 4½ years you have been in the district? One.
498. And the three years prior to that were good years? Very fair.
499. So that considering all things, there seems to be a great necessity for a railway here? I think so.
500. How many men have you working? Two all the year round.
501. If we have the railway will you employ more? Yes, about five.
502. Do you intend to cut up some of your land and lease it? Yes, if I am not able to attend to it all myself.
503. When your wheat was carried for 9s. and 10s. 6d. a ton, has there generally been a load waiting at the other end? Mostly.
504. If you wanted to get your wheat to market, and the carrier had no load at the other end, do you think he would carry it for 9s. 6d. a ton? No.
505. What would he expect? 15s. or 16s.
506. Then the average contract for carrying wheat is about 15s. ton? Yes, but as a matter of fact, they do not take it by the ton, but by the bag. Last year we paid about 1s. per bag, and there would be about ten bags to the ton.
507. Was not the last year the cheapest year you have had? No; the year before it took about nine bags to weigh a ton, and that made 9s. This year it takes about ten bags to weigh a ton, and still we pay 1s. per bag.
508. As a rule then, a carrier would not carry for 10s. a ton or 1s. a bag unless he had a load at the other end? I do not think so.
509. Do you send much stock to market? No, for the simple reason that it does not pay.
510. If a railway were constructed would you send them to market? Yes.
511. Do you find an easy sale at Tamworth? Not always. I generally sell privately. It pays us better now to leave the sheep on the run and cut the wool off. It does not pay to send them to market.
512. How much do you get for your sheep? Five shillings locally. I may state that a good many sheep are trucked at Tamworth which pass through here.

WEDNESDAY, 25 *MARCH*, 1896.

[*The Sectional Committee met at the Court-house, Barraba, at* 8 *p.m.*]

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).
The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.
George Black, Esq.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

Mr. William Henry Reynolds, Mining Manager, Cornish Copper-Mining Company, Gulf Creek, near Barraba, sworn, and examined:—

Mr. W. H. Reynolds. 25 Mar., 1896.

513. *Chairman.*] Where is Gulf Creek? About 20 miles from here.
514. What business do you follow? I am mining manager of the Cornish Copper-Mining Company.
515. *Mr. Fegan.*] How many men have you employed? From thirty to thirty-five.
516. How long have mining operations been carried on? Two years; but I have only been there about six months.
517. Do you send your copper to Newcastle? Yes, regularly.
518. Is Mr. Langers the chairman of the company? Yes.
519. How many tons of ore did you send to Newcastle last month? Twenty-four or 25 tons of copper regulus.
520. What did you pay for carriage to Tamworth? Thirty shillings a ton from the mine.

Mr. W. H. Reynolds. 25 Mar., 1896.

521. What weight can you put on a dray? They have occasionally taken 7 tons, but 5½ to 6 tons is the average.
522. If a line were constructed from Tamworth to Manilla, would it be a means of developing the mine? It would not be of so great an advantage as it would be if it were brought to Barraba.
523. If there were a railway from Manilla here, what price do you think you would get your ore drayed for? About 10s. a ton.
524. Would not that allow the company to develop the mine to a greater extent? Certainly.
525. Have you very good ore at the mine? Yes; and it is likely to increase. We are about to put up a water-jacket furnace, and we shall then probably return 20 to 25 tons of metal per week, instead of, as now, half that quantity in a fortnight.
526. Do you send it to the Waratah Smelting Works? Yes.
527. How much do you pay for carriage from Tamworth to Newcastle? About 12s. a ton.
528. Do you think you have a permanent mine? Yes.
529. How many acres have you? About 250—that is with what has been applied for.
530. How many tons to the acre will it give you? I am not aware what the total quantity of ore on the property is; but we have 2,000 or 3,000 tons already discovered.
531. Will it be an advantage to the company to have a line constructed from Tamworth to Manilla? Yes, with a view to its being extended to Barraba.
532. When your new machinery is at work how many men will you employ? Fifty or sixty at least.
533. *Mr. Black.*] Are there any other copper-mines at work in the locality besides yours? Yes.
534. How many? One.
535. Have you any idea as to its output? No; it is more a prospecting claim at present than anything else.
536. Do you know how many men are employed there? Five, I think.
537. How long has it been at work? Six or eight months. They have good prospects, but they have not yet opened upon any rich deposit.
538. If the railway were opened to Manilla, would you send your copper to Manilla instead of to Tamworth? Yes.
539. Would the saving in time, as well as the saving in cost of carriage, be an advantage? Perhaps the saving in time would not be a great consideration.
540. Do you purchase gunpowder, dynamite, and so on, at Tamworth, Sydney, or Newcastle? Yes.
541. Have you any idea as to your tonnage of that kind of goods? No.
542. You are not particularly enthusiastic about the railway, are you? I think a railway to Barraba would be of great advantage to us, but even a railway to Manilla would be an advantage.
543. Is there any great area of metalliferous area in this country? Yes, a large extent of mineral lodes all through the district.
544. Is there any other precious metal besides copper? Yes, there is some gold also, but the reefs require development.
545. Are there many men in the locality prospecting for gold? About half a dozen.
546. *Mr. Roberts.*] Is your mine nearer to Bingera or Barraba? To Barraba—about 20 miles north.
547. Is it far from the main road? Yes; I think the main road goes through Cobbadah, which is 12 or 13 miles from here.
548. Have the copper-mines ever suspended work on account of the low price of copper? I do not know that they have done so on that account, but they have been suspended once or twice.
549. Was the mine in full work when you took charge? Yes.
550. Did you hear the reason for work being suspended? No.
551. Did you hear the reason for the mine being reopened? I do not think it has ever been, properly speaking, suspended; they have always had two or three men working, but they have not always been raising large quantities of ore.
552. You carry on smelting at the mine? Yes.
553. What is the price of copper now? About £45 or £46 per ton.
554. Has the price gone up since you took charge of the mine? No.
555. What price do you expect to get for copper in order to make your mine a paying concern? We make it pay at present prices.
556. Have you paid dividends? No; but we have accumulated money, which is going towards the erection of the water-jacket, and so on.
557. Is it a joint stock company? Yes; a limited liability company.
558. Have you any objection to state the amount of money annually expended on the property, including all salaries? We are spending more than £200 a month.
559. What percentage of copper do you get? It varies from 15 to 30.
560. Do you consider that a satisfactory return? Yes.
561. Have you a well-developed lode? Yes; a large strong lode. The deepest point is 18 fathoms.
562. Have you had large experience in the working of copper-mines? Very few have had more.
563. Where has that experience being obtained? In Cornwall, these colonies, and Queensland.
564. What mine have you superintended in Queensland? The Mount Perry Copper Works.
565. Is it still working? No; I was there from 1872 to 1876.
566. Did it cease working on account of the low price of copper? Yes, partly.
567. What was the percentage of ore raised at Mount Perry? About 21 or 22; it was very good.
568. Then, if your returns are from 15 to 30, they may be considered satisfactory? Yes.
569. Can you give any idea as to the quantity of ore in sight? At our deepest point we have a very good lode, and it is the same class of ore as we have at the level above, but there has been very little done at that level yet; but as far as it has been developed it is very good.
570. Can you give any estimate as to the time it would take to work the ore at present in sight? That would depend on the furnaces which are erected, and the speed with which they extract the ores. As far as we can see from the deepest point reached, it will last for a considerable depth. At the deepest points which have been reached and for a large extent—400 feet in length—the lode is all good. At the rate at which we are extracting it now the ore already in sight will last for two years or more.

Mr. W. H. Reynolds. 25 Mar., 1896.

571. Does the company contemplate sinking further and erecting more powerful machinery? Yes; the water jacket is already on the ground ready to be erected, and we shall call for tenders shortly for the construction of dams.
572. What is the value of the machinery on the ground? About £1,000.
573. Are you so satisfied with the prospects of the mine that you have recommended a further expenditure on machinery? The directors have done so; in fact the arrangements were made for the purchase of the water jacket before I undertook the management.
574. I am not speaking of what is already on the ground;—has any further machinery been ordered? No; we do not require anything more at present. We can go considerably deeper than we are now, and develop the mine a great deal further with the machinery we already have.
575. How many tons will your machinery turn out when the water jacket is erected? Thirty tons a day.
576. Then, at present you would not feel justified in asking the company for any further expenditure on machinery? No; we have already sufficient machinery to put us at least 10 or 15 fathoms deeper than we are now. When we are that much deeper we shall require more powerful driving and drawing machinery, but not at present.
577. If the railway is constructed to Manilla, how many tons of regulus will you send there per week? As soon as the water jacket is completed we shall send from 20 to 25 tons weekly.
578. In what way do you think the railway will be of benefit to your company? We shall save a little in carriage, and considerably when the water jacket gets to work, both to and from the mine.
579. Where did the machinery come from? Tenterfield.
580. Do you consider the mining industry in this part of New South Wales is being retarded owing to the high rate of carriage? There is no doubt of it. When it is made easy of access there will be more capitalists.
581. Is there any coal in the district? Not that I am aware of.
582. Can you give the Committee any other information as to the mining resources of this part of the country? Mining seems to be quite in its infancy here, and I cannot say much about it. There are strong mineral lodes with indications of copper, and some of gold, cropping out in various places; but money is required for their development.
583. *Mr. Fegan.*] Can the copper works at Waratah take more than you can send them? I should think so.
584. You have never had any trouble in sending your copper to them? No; they will take as much as we like to send them.
585. Is your copper carried to Tamworth in all seasons of the year at 30s. a ton? Yes.
586. Have you never paid more? Not since I have been there.

Mr. Maurice Hamilton Dawson, Manager, Commercial Bank, Barraba, sworn, and examined:—

Mr. M. H. Dawson. 25 Mar., 1896

587. *Chairman.*] How long have you been here? About two years.
588. You have some idea with regard to the stability of the place so far as mining, pastoral, and agricultural pursuits are concerned? Yes.
589. Do you understand fairly well the position of all classes of people engaged in those industries? Yes.
590. *Mr. Black.*] Do you buy gold? No, we take the gold from those who bring it in, give them an advance upon it, and give them the actual returns, charging them the ordinary banking commission.
591. What quantity do you receive per month on an average? About 200 oz.
592. Has there been an increase during the last year or two? It has increased 200 per cent. from 1894 to 1895.
593. Do you think any further development is likely? Most decidedly.
594. Do you know any reasons which retard the development of the industry? The want of a battery on the field more than anything else at present.
595. I suppose that in the case of a battery the element of carriage would enter largely? Very largely.
596. Do you think that would be lessened by the construction of a railway to Manilla? Very, because from Manilla to Crow Mountain would be no great distance.
597. Do you think any development of the copper-mining industry in the district is probable? I cannot say I have any great knowledge of it.
598. Would you consider it likely if a railway were constructed to Manilla that traffic north of Barraba, say as far as Bingera, would be diverted to Manilla? It would decidedly go to Manilla.
599. Would it continue to go to Manilla if a railway were constructed from Moree to Inverell? I should think not from Bingera way. It would go the other way if railway rates were equal.
600. You think the Bingera traffic would follow the Inverell line? I should think it would, but I could not speak very positively on the point.
601. Supposing a line were constructed from Tamworth to Manilla, and the line from Moree were carried on to Inverell, have you any idea as to where the dividing line—the watershed of the traffic, so to speak—would be formed;—where would the traffic begin to go on the one side to the Inverell-Moree line, and on the other side to the Tamworth-Manilla line? About Bingera.
602. Why do you think the traffic north of Bingera would go the Moree-Inverell way? It would be closer to Inverell from Bingera, than it would be from Bingera to Manilla.
603. Have you any idea as to the capability of the country here for the growth of fruit? There has been very little fruit cultivation gone into, but what has been gone into has been very productive; there, is however, no market.
604. *Chairman.*] Have you any knowledge of the position of the farmers of the district? Yes.
605. Is it a fairly stable position? It is the soundest district I have been in.
606. How do you regard the position of the pastoralists? As sound.
607. If the carriage from here to Tamworth were lessened 5s. or 10s. a ton by the construction of a railway to Manilla, what effect would it have on the farming industry? The farming area would be greatly increased.
608. What effect would it have on the pastoral industry? There would be more fat cattle sent down than there are now.
609. Is the district capable of carrying more stock than it has at present? Yes.

Mr. M. H. Dawson. 25 Mar., 1896.

610. What effect would the railway have on the mining industry? If they could get machinery cheaper on the fields, it would have a good effect on it. The expensive carriage of heavy goods, such as batteries, seems to be the great drawback.
611. *Mr. Fegan.*] Was the Bank doing business at Manilla when you came here? Yes.
612. Why was it closed? It was thought the business could be done between here and Tamworth, instead of keeping an extra branch.

Mr. Daniel Capel, grazier, Piedmont, sworn, and examined:—

Mr. D. Capel. 25 Mar., 1896.

613. *Chairman.*] Where is Piedmont? Twelve miles north of Barraba on the road to Bingera, a few miles above Cobbadah.
614. *Mr. Roberts.*] How long have you resided in the district? I was born in it.
615. How long have you held your present property? Fifty years.
616. What area do you hold? 50,000 acres, including leased land from the Crown.
617. What stock have you? 24,000 sheep, and 1,500 cattle.
618. Do you send your wool to Tamworth? Yes.
619. In the event of a railway being constructed, would you send it to Manilla? Certainly.
620. What quantity of wool do you generally send per annum? 400 to 500 bales. I have another place 12 miles west—Campo Santo, area about 15,000 acres—from which I send about 100 or 200 bales.
621. What rate of carriage do you pay to Tamworth? 2s. 9d. per cwt., or £2 15s. a ton.
622. *Chairman.*] You are drawing your wool a lesser distance than the mine is drawing its ore, and still you are paying £1 a ton more? Yes, but they have a contract. We could get it lower if we liked, but we do not cut the price down.
623. *Mr. Roberts.*] In the event of a line being constructed from Moree to Inverell, would you still send your wool to Tamworth or to Manilla? To Manilla.
624. *Chairman.*] How far is Warialda from Piedmont? Fifty-six miles.
625. And how far are you from Manilla? Forty miles.
626. *Mr. Roberts.*] I understand Piedmont is a very good sheep country? Middling.
627. Is there much agricultural land on it? I do not think there is any—not of any extent.
628. Do you consider it desirable that the railway should be constructed from here to Manilla? Yes.
629. On what grounds? Because the farmers would be able to get to market cheaper.
630. Do you think there would be much land leased for farming purposes if the railway came to Manilla? Certainly there would.
631. Is there a large traffic of wool from the far north along this road? Yes.
632. Is it a favourite road for carriers? Yes; there are a great many teams on it.
633. Is there much good agricultural land between Barraba and Manilla? Yes; there is a good lot of wheat-growing land.
634. Will it compare favourably with the land between Manilla and Tamworth? I think the land between Manilla and Tamworth is better.
635. *Mr. Fegan.*] How many men on an average do you employ on your 50,000 acres? Fifteen
636. You say you have not many acres of cultivable land? No.
637. If the railway is constructed the Commissioners propose to charge 3s. per ton for wheat, 7s. 6d. per ton for wool, and 5s. per ton for general merchandise;—would those charges make a great deal of difference to you? Yes; we get up about 60 tons of salt every year.
638. Would not the cost of the carriage of your wool be considerably lessened? Yes; nearly one half.
639. Could the railway authorities rely upon the people of Barraba to unload at Manilla? I could not answer that question, but I should do so.
640. What will your land carry? One sheep to 3 acres.
641. Then it is not first-class land? No.
642. How much wool do you send down, as a rule? We shear between 20,000 and 35,000 on the two places. We get 600 to 700 bales.
643. *Mr. Black.*] Is the wool in the district of good value? Pretty fair. It usually realises a fair price.
644. Do you breed cattle? Yes; a few.
645. Where do you send them? I generally sell them about Tamworth, sometimes I send to Sydney.
646. What number of fat stock do you send away per annum? We do not fatten many. We sell them as stores.
647. How many store cattle do you send away? Between 300 and 400 head annually.
648. If the railway were extended to Manilla, would you truck fat cattle there? Yes.
649. If you were sending store cattle to Tamworth, would you truck them at Manilla? No.
650. Do you send any fat sheep to market? Sometimes.
651. Would you truck them at Manilla? It depends on the season. If it were a good season we would sooner drove them.
652. Is there any great area of land about here suitable for agricultural purposes? It is nearly all suitable for agriculture in the neighbourhood of the town.
653. Are there any large cultivable areas between here and Manilla? Yes.
654. Where do they lie? On both sides of the road.
655. But the land in the immediate vicinity of the road is not so good? No.
656. Do you know anything of the capabilities of the soil for fruit-growing? It will grow very good fruit.
657. Would it be difficult to get a market for it? Yes.
658. Have the droughts a great effect upon you in this locality? Not so much as in other places. It is higher here, and as a rule we have a better rainfall.
659. Has any attempt been made at any time to lease from you any of your land for farming purposes? No.
660. Do you know of any attempts in the neighbourhood in that direction? No.
661. Have you ever heard that wool raised about Bingera has been sent to Glen Innes, with a view of being trucked from there to Brisbane? No; but I think Myall Creek, 14 miles on the other side of Bingera, sent it one year.
662. It has not been made a practice? No; all the wool comes this way.

Mr. Bernard Finkernagel, storekeeper, Barraba, sworn, and examined:—

Mr. B. Finkernagel. 25 Mar., 1896.

663. *Chairman.*] How long have you resided here? Nearly eight years.
664. Have you any statement to make? There is a difference in the carriage paid by the Copper Company and other persons in the district. The person who carries for the copper mines has a special agreement to carry ore at the rate of 30s. a ton, which is exceedingly low. I myself am paying £2 a ton, and a short time ago I paid £2 10s. and £2 12s. 6d. a ton.
665. What do you think is a fair freight from Barraba to Tamworth for general merchandise? £2 a ton.
666. What is the freight on wool from Barraba to Tamworth? £2 a ton.
667. Do you know of any stuff being carted from Barraba to Warialda? No.
668. Do you know what it would be worth to take stuff from Barraba to Warialda? The distance is 66 miles, and I should think it would be worth from £2 to £2 10s. a ton.
669. Supposing a railway were built from Moree to Inverell, and also from Tamworth to Manilla, where would the loading from Barraba and district go? Decidedly to Manilla. We should have to pay ever so much more for carriage if we sent it to the other line, because it is so much further.
670. At what point north towards Bingera would the traffic commence to go to a line constructed from Moree to Inverell? I think it would be better for Bingera to send their merchandise to Manilla for this reason: The country between here and Inverell is nearly all black soil, and it is impossible to travel through it in wet weather. For this reason I believe the carriers could take loading from Bingera to Manilla cheaper than from Bingera to Inverell. It is 38 miles from here to Bingera, and 26 miles from Bingera to Warialda—in all, 64 miles. To Inverell from Barraba it is 83 miles.
671. Your opinion is that all produce from 38 miles north from Barraba would make to Manilla, even supposing a line were constructed from Moree to Inverell; what is your opinion of the mining industry in Barraba? It is very promising, and if we had a railway it would bring it very much to the front. For instance, 40 miles from here there is an antimony mine which is practically useless now, but it would become a valuable property if we had a railway to Manilla. The carriage from that particular mine to Tamworth is too high to make the ore pay. Antimony is a very cheap ore, and a few shillings in the cost of carriage would make a great difference.
672. Do you think 5s. would do it? Yes. The manager recently told me that if the carriage were a certain price the mine would pay handsomely. He also told me he could get 60 tons per week out of the mine if it were in the hands of a company.
673. What is the future of gold in the district? I do not think it has ever been so promising.
674. What about the copper? The copper-mine was never in such full swing as it is at present.
675. Then you think the mining industry will furnish fair returns to the railway at Manilla? Yes.
676. Do you think it is possible there would be any great increase in the farming industry in the Barraba district? I do not think it could be otherwise. I know farmers in this district are often at a loss to get rid of their produce, because they cannot find a market for it.
677. Have you any statistics as to the size of the town of Barraba? In the Police Patrol District of Barraba the population is 1,700. We have altogether 102,000 acres of freehold land in the district, and 8,286 acres of rented land. The area of the Crown lands is 248,262 acres. The total area under cultivation for last year was exceptionally small, namely, 1,812 acres. Our area of wheat was also very small, viz., 692 acres. These figures apply to the police district of Barraba. The total yield of wheat was 10,454 bushels. These were exceptionally small returns owing to the drought. There were 615 acres of maize in Barraba, and the average yield was 22 bushels. The acreage I have given for freehold land does not include conditional leases.
678. *Mr. Black.*] Have you any reason to suppose the tonnage of goods arriving in Barraba from Tamworth has been lessened since you gave evidence in 1892 before Mr. Alexander? No, I have every reason to believe it has increased.
679. You gave the tonnage then at 700 tons a year? I believe it is considerably more now. I myself get over 200 tons a year.
680. How many storekeepers are there in the town? At present two; there will be three before long.
681. Do you know anything of the mining interests in the neighbourhood? Yes; I am interested in the mining centres of the district.
682. Do you know anything of the diamond-mining at Bingera? A little.
683. Is there any likelihood of its proving successful? I believe so.
684. Is it a fact that kaolin is found in large quantities near Cobbadah? Yes.
685. Has anything been done with regard to it? Not to my knowledge. There are no miners working there. There is also kerosene shale in this district.
686. Is it being worked? No.
687. Is it of sufficient quality to be worth working? That is more than I can say. There is also chrome in the district.
688. Is the Bingera Gold-Mining Company still in existence? I think they are suspended.
689. Is there any other gold-mining company still in existence in that district? Yes, there are small syndicates, but no large company to my knowledge.
690. Is it a fact that the ore in that locality requires treatment which cannot be locally provided, and therefore has to be sent to Sydney? I have heard so.
691. Then the construction of a railway, lessening the cost of carriage, would be an inducement to miners in that direction? Yes. I may state there are three gold-mining companies in Bingera working now.
692. Is it true that there is also cinnabar being worked at Bingera? Yes.
693. Is it now being worked? No.
694. Do you know why the working has ceased? No.
695. Is any large quantities of hides, skins, and tallow, and kindred products sent to market from this locality? Yes, a large amount.
696. Is there any marketable timber in the district? We have some very good timber about 15 miles out east.
697. What timber is it? Stringybark and box.
698. Is the timber likely to be used for building purposes? For bridges and that kind of thing.
699. Is any of it sent to Tamworth? Not at present, on account of the carriage.
700. Are you of opinion that if the facilities for taking goods to market were increased the farming industry would flourish? I am.

701. What is the ordinary time in which goods are delivered here from Sydney? About a fortnight; but I have had them on the road for as long as two months in wet weather. The average time of a team from Tamworth to Barraba is from five to six days. Mr. B. Finkernagel. 25 Mar., 1896.
702. Have you ever known any great delays in delivery from Tamworth to Barraba? Yes; on one occasion I have known of a carrier being unable to travel more than 2 or 3 miles a day.
703. Do you know the value of the town allotments? Yes; in the main street, in a good position, land is worth £2 to £2 10s. a foot, perhaps in the best position £3.
704. *Mr. Roberts.*] In the event of a railway being constructed to Manilla, would the people of Bingera make use of it in getting their goods up? I have every reason to know the feeling of the Bingera people, and I can say that they would.
705. If a railway were constructed from Moree to Warialda, and on to Inverell, would it be to their advantage still to patronise the Manilla railway? If the railway touched Warialda, I believe a portion of the traffic might go there. I believe that the extra charge of the railway on account of the greater mileage to Sydney from Warialda would more than outweigh the extra carriage; teams would carry from Bingera to Manilla; I believe they would send to Manilla.
706. Are you familiar with the country between Moree and Warialda? I have travelled over it several times, and it is very barren. The country begins to be soft 3 or 4 miles north of Bingera on the road to Inverell.
707. Is that the reason why you think it would be better for the goods to come down to Manilla? I believe it would be one factor towards it.
708. Do you think people would get their goods quicker from Manilla than from Inverell? Yes; in wet weather no one could travel there with a load—it is all black soil.
709. Do you know anything of a coal discovery in this district? No.
710. Have you ever visited the gold-fields of Crow Mountain? Yes, I have a store there.
711. Do you know what is the population and the future of the place? There are some 250 miners there, and there are twelve or fourteen payable reefs, some of which are extraordinarily rich.
712. Do you think the progress of that district is being retarded for want of railway communication? Yes; the want of a battery is greatly felt there. If we had a railway the carriage of it would be considerably less.
713. Have you any knowledge of the yield per ton of the mines? It varies very much. The "Dodger" has yielded 57 oz. to the ton. Three tons were crushed. Since then they have had 10 tons crushed, which yielded 20 oz. to the ton. The others had only small parcels crushed. One mine yielded 6 oz. to the ton. There are several mines there which I should say range from 2 oz. to 6 oz. to the ton.
714. Is there much machinery upon the ground? There is one small prospecting battery there, but it is totally incapable of doing the work required on the field.
715. Do you think the high rate of carriage prevents the introduction of machinery? I think its introduction would be facilitated if we could get it here more cheaply.
716. How long have you been in business at Crow Mountain? I started there last April. I know there are plenty of miners there who are having splendid shows. They stack the ore and cannot get it crushed. Hence they are in want of money, and the field is kept back to a certain extent. The field is languishing for the introduction of capital.
717. Do you think if the railway were constructed there would be a great chance of capital being introduced, of valuable machinery being erected, and of the field becoming a large and profitable one? Yes; I think so.
718. *Chairman.*] How far is it from Warialda to Moree? Fifty-seven miles.

THURSDAY, 26 *MARCH*, 1896.

[*The Sectional Committee met at the Court-house, Barraba, at 9 a.m.*]

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.
George Black, Esq.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla

Mr. Sylvester Joseph Lillis, grazier, Barraba Creek, sworn, and examined:—

719. *Chairman.*] How far is Barraba Creek Station from Barraba? Two miles south.
720. What area of land have you? 4,000 acres of purchased land and 1,200 acres conditional purchase.
721. *Mr. Fegan.*] Do you wish to add to or alter the statement you made before Mr. Alexander? One item which has altered since that statement was made is in regard to carriage. The carriage then was £2 12s. 6d. That was the Union rate. The carriage this year has been down to £2. I will put in a statement I made, with one or two alterations, before Mr. Alexander:—"There were 5,000 acres of freehold and 1,500 acres of conditional purchase, and no leasehold land; this will carry one sheep to the acre, being about the pick of the district; considers that the district, taking improved and unimproved land all round, is capable of carrying a sheep to the acre; he himself runs cattle principally, but has also sheep and horses; the whole of this is a very sound country for sheep; those bred here in the Barraba district are always marketable, not being subject to any disease; the price fetched by the wool compares very well with that of any other district; from Campo Santo, about ten years ago, the wool brought the highest price in the English market; this country, is in parts a fattening district, is not used very much for fattening, but mostly for breeding; a large number of stores are sent away from here; he sends fat cattle away, mostly to Tamworth, but also to Narrabri, Bingera, and other places, but he himself never trucks his stock; quantities are trucked by other owners; a large number of cattle are run in these districts generally; sheep-grazing has increased considerably since the railway opened to Tamworth, but formerly, the carriage of wool was so high, cattle were in greater favour; he does not truck, because he generally Mr. S. J. Lillis. 26 Mar., 1896

Mr. S. J. Lillis. 26 Mar., 1896.

generally sells to buyers locally, but a railway to Barraba would induce him to truck largely; he estimated that about 10,000 head of cattle pass through Barraba annually; of these, he believes that about 6,000 would be fat; during one week about 1,500 head of fat cattle have gone through; these were all from the north; he estimates that if there were a railway-station at Barraba about 800 head of fat cattle would be trucked there annually; of sheep, he believes that 20,000 fat sheep would be trucked there for market; within one fortnight about 12,000 fat sheep have passed through; there is a common attached to Barraba of 1,100 acres of fairly good land, and there is a considerable amount of land within the population area still in Crown hands; there is a considerable amount of leasehold land still in the district—fairly good grazing land, and some of it very good for cultivation; this is now being proclaimed as special areas. When the leases lapsed six years ago the greater part available was immediately taken up; some selectors came from outside the district, but the major part of the land was taken up by residents of the district; some of the special areas are rated as high as £3 per acre; the sizes run from 40 to 320 acres; some have been taken; the country, from a few miles north of Upper Manilla to Barraba, on the east of the main road, as far as the river, is not fit for agricultural purposes in very large blocks, but it is good grazing land; east of the Manilla River the country becomes mountainous, and is fairly good grazing land, but not agricultural, and it is badly watered; westward of the main road between Barraba and Manilla there is considerable agricultural land; and along the Manilla River right up to its head there are large areas of good agricultural land; some of it is under cultivation and produces good crops; there are some large areas of Crown land left on Buirindi, Tarella, and Campo Santo; a good part of most of this is agricultural land; it would grow wheat well, and is cultivable; in county Murchison there had been little settlement up to 1891, and this simply took place on the Horton River; knows of much good flat land on Ulumbaralla pastoral holding; Rocky Creek is more or less mountainous; Cobbedah is good grazing land, but stony and not good for agriculture; a good sound country for sheep; Piedmont is good sheep-country, with very little agricultural land on it; all north of the Devil's Elbow, on the road in that fall of the water, is all good country; believes that when the land in this Central Division is thrown open it will all be taken up by selectors; knows of several who are waiting to take up land there; there is a considerable population of young men in these districts who require land on which to settle who are looking forward to being able to acquire it in the Central Division, and this county of Murchison is very favourably situated, having a fairly good rainfall and situation with regard to the existing railways and markets; this route *via* Barraba is much used by stock from Queensland, because it is best served by natural water, and there is not so much black soil to be passed over; this, in and after wet weather, becomes almost impassable; from Moree to Narrabri is a very dry route, but the Gwydir River always has water, and so have the Horton River and Cobbedah Creek; would note that wheat is ready for market at about the same time as the wool is going down, so the former cannot find carriage except at the full Union rates, and has to be kept back until the wool season is over, when it is taken at 7d. per bushel; believes that if a railway was built to Barraba greater quantities of hay would be grown, viz., wheaten, lucerne, and oaten, and by being pressed he considers that a market would be found for it in many places; also believes that large dairies would be started in the district; there would be great inducement to send fat lambs, calves, and pigs to Sydney; these always realise good prices; without a railway such a trade is impossible; he also finds that onions do well in this district; in 1891, 8,000 bales of wool passed through Barraba; in that year passed 140 teams, counting both ways; he is informed that the wheat grown in this district compares well with the best grown in any part of the colony."

722. How many men have you employed? I have five sons, and I generally employ two regular hands.
723. Have you any agricultural land? Yes; 40 acres.
724. What do you cultivate? Wheat, but principally lucerne, for home purposes.
725. How long have you been in the district? Sixteen years.
726. How many bad seasons have you had during that period? Four.
727. What do you call a bad season? A season of drought.
728. Where, in your opinion, would the traffic commence to split? I think all the traffic would go to Manilla from Bingera, and 7 or 8 miles north of it. Of course it would depend a great deal on the carriage. If there were a line of railway going from Warialda it would be like going round the country. This is the most direct route to Sydney.

Mr. James Waddell, Bingera, sworn, and examined:—

Mr. J. Waddell. 26 Mar., 1896.

729. *Chairman.*] What is your opinion as to the proportion of the traffic of the district which would go north, and of the portion which would go south? I have been a hawker all through the district for some years, and I have an intimate knowledge of it. I think there is no question whatever that the traffic of Bingera, and for a few miles on the other side, even if a railway is made from Warialda to Moree, would come this way. A railway to Warialda *via* Moree would be 100 miles longer than by this route. If there were a railway from Tamworth to Manilla it would be 100 miles shorter than the one *via* Narrabri-Moree. There would be £1 more railway freight to pay that way.
730. *Mr. Black.*] Is there much black soil between Bingera and Warialda? Not much.
731. Then the item of difficulty of road carriage does not enter into your calculation? No.
732. There is not enough of the black soil to make it advisable for the carriers to come this way, all other things being equal? There is not much difference; it is not a bad road. Of course into the surrounding district it would make a great difference. The Horton River people are the people out there who would have the difficulty to contend with in regard to the road. Another thing which operates in favour of this route is the fact that sometimes for one and two months you cannot cross the big river.
733. In that case the traffic would be compelled to come this way? Yes.
734. *Mr. Fegan.*] How long have you been in the district? Nine years.
735. Were you not one of Proudfoot & Co.'s overseer's? Yes.
736. Therefore you know a little about railway construction? Yes.
737. Do you think the country between Tamworth and Manilla a good one for a railway? Yes.
738. If the line were constructed, do you think the carriage of this portion of the country would stop at Manilla? There is no doubt of it.

739. Are you in business in Barraba? Yes.
740. Would you go any further than Manilla if the railway were brought there? Certainly not.
741. Have you ever had to find fault with the teams on account of the delay in the delivery of merchandise? Yes.
742. Do you consider that a railway would be the means of inducing more cultivation as well as settlement on the land? I have no doubt it would double the settlement in a year or two.
743. *Mr. Roberts.*] Can you give any information as to the mineral resources of the district? There is no doubt the mineral resources of the country are very great; there is a great scope of auriferous country. The whole country from Manilla to Warialda is auriferous. Prospecting is going on even to within a few miles of Warialda.
744. Do you think that if a railway were constructed to Manilla there would be any influx of population? I believe there would; the want of railway communication is the means of keeping capitalists out of the district.
745. Have you ever visited the copper-mine in the district? Yes; it is looking exceedingly well. Unless it were very good it would not pay in view of the way in which it is being worked. If the owners would spend more money upon it it would pay a great deal better, and there would be more people upon it.

Mr. J. Waddell. 26 Mar., 1896.

Mr. John Edward Ethridge, selector, Horton River, sworn, and examined:—

746. *Chairman.*] Where do you reside? On the Horton River, about 20 miles from here, west of the range.
747. How far are you from Moree? About 80 miles.
748. Are there many selectors in your vicinity? Yes, about sixteen. About 30,000 acres have been selected.
749. Would all the wool from there come this way? Yes.
750. No matter what developments took place with regard to railway construction from Moree westward? It would all come this way. At the present time the railroad at Narrabri has nothing to do with the selectors in this part.
751. How far are you from Narrabri? Sixty miles.
752. What will the land carry? One sheep to 2 acres.
753. Is there any farming land? A lot; there are many instances in which selectors would go in for wheat-growing if the railway came to Manilla.
754. Do you think you represent public opinion? Yes; I was specially delegated to come down and give evidence.
755. *Mr. Roberts.*] Is there plenty of land available for farming? Yes; at my own place I have 600 or 800 acres which I feel sure I should cultivate.
756. Would you lease it? I think I should lease a little.
757. Is there any land being cultivated there on the half system? I do not think so. At present the great drawback is the want of a market.

Mr. J. E. Ethridge. 26 Mar., 1896

Mr. Edwin Blaxland, Horton River, sworn, and examined:—

758. *Chairman.*] How far is your place from Narrabri? Seventy miles from Narrabri; the same distance from Moree, and 46 miles from Manilla.
759. What area have you? 2,400 acres.
760. *Mr. Fegan.*] How many acres have you under cultivation? I only grow a little for my own use. I have plenty of land which I could cultivate if there were a market.
761. What cultivation would you go in for if a railway line were constructed? Corn and wheat.
762. How many men do you employ? Two.
763. Would you employ more if you went in for cultivation? Decidedly.
764. Is the land good for fruit-growing? I have only been there three and a half years; but I have seen good fruit grown, and the trees I have planted are coming on well.
765. Is your land freehold or conditional purchase? Conditional purchase and lease, and it is only a young district; but it will be a large one before long.
766. Is there plenty of water? Yes; and there is a good rainfall.
767. Will you send your produce to Manilla if the line is constructed to that place? Decidedly.
768. In preference to Moree or Warialda? Most decidedly, the road is so much better. Warialda is out of the question.
769. *Chairman.*] Do you think it would be possible for you to reach any portion of the Narrabri-Moree line more easily than you could reach Manilla? No; it would be impossible, simply because there is a large range running down north, and we should have to go 50 miles north to get round it, and then travel west again. We should have to go right down the Horton River, and then west to get to the line, whereas we can come direct to Manilla, and by doing so get close to market.
770. A new road has recently been measured from that country here? Yes.
771. Would that suit you? Yes, when we get it made.
772. But it is in the right direction? Yes.
773. What would your distance then be from the centre of the country of which you are speaking? Eighty miles from here.
774. That makes it 46 miles from Manilla? Yes.

Mr. E. Blaxland. 26 Mar., 1896.

SATURDAY,

SATURDAY, 28 *MARCH*, 1896.

[*The Sectional Committee met at the Court-house, Tamworth, at* 10·30 *a.m.*]

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.

George Black, Esq.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

Mr. Charles William Jenkins, A.M. Inst. C.E., Resident Engineer, Roads and Bridges Branch, Department of Public Works, Tamworth Division, sworn, and examined:—

Mr. C. W. Jenkins, A.M.I.C.E.

28 Mar., 1896.

775-6. *Chairman.*] You desire to hand in a list of the roads which will act as feeders to the proposed railway from Tamworth to Manilla? Yes; the list is as follows:—

Road.	Length in Miles.	Feeding Railway at
Attunga to Hall's Creek	15	Attunga Creek.
Attunga towards Somerton	12	do
Manilla towards Somerton	8	Manilla.
Manilla towards Carroll	16	do
Manilla towards Borah	20	do
Manilla towards Bingera	36	do
Manilla towards Bundarra	25	do
Manilla up Namoi River	25	do
Barraba towards Bundarra	25	do
Barraba to Head of Horton River	20	do
Barraba to Buirindi	12	do

777. How much agricultural or pastoral land, or inferior land, does the road from Attunga to Hall's Creek pass through? I should say one-fourth is suitable for agriculture, and the remaining three-fourths is good agricultural land.

778. What about Attunga to Somerton? That is good agricultural land. It is also good agricultural land from Manilla towards Somerton, 8 miles, and from Manilla towards Carroll 16 miles.

779. What about the road from Manilla towards Borah 20 miles? Three parts of that pass through good agricultural land. The remaining fourth is fair pastoral country.

780. What about Manilla towards Bingera? I should say that one-fourth of that country is suitable for agriculture. The first quarter from Manilla, until you pass Upper Manilla, is good flats on the Manilla River and its branches. The hills are tolerable grazing country. As you approach Barraba the flats become more pinched, and the ridges poorer. Still in the vicinity of Barraba there are fair areas of agricultural country on the creeks and rivers. Passing beyond Barraba the country becomes second-class pastoral country. The first 7 miles of the country from Manilla towards Bundarra is good agricultural land. From there the country gets pinched and broken until you reach Crow Mountain goldfield. From there northerly it is poor granite country of little value to anyone.

781. What about the country from Manilla up the Namoi 25 miles? The first 10 miles consists of good agricultural land. After that the country gets poor, and can only be regarded as pastoral country. The flats facing the river here, become limited.

782. What about Barraba towards Bundarra 25 miles? The whole length is poor pastoral country, but carries a good deal of mineral.

783. What about Barraba to the head of Horton River—20 miles? The first 10 miles of that passes through second-class agricultural country. From there you ascend the Nandewar Range, and pass on to the Horton River. The Horton River country itself embraces a rather limited area of second-rate flats. The ranges are very poor country.

784. What about Barraba to Buirindi, 12 miles? It is second-class country on the ridges, with ordinary flats on the banks of the creeks, which, although not first-class agricultural country, might possibly be used in limited areas for it.

785. You consider that from the limits you have mentioned the trade will set towards Manilla as a depôt, or some portion of the line from Tamworth to Manilla? Most decidedly. I have been careful to limit the lengths of the roads in order to embrace only such country as will be affected by the railway.

786. And which will not be affected by any future extension to the north, nor by any existing railways to east or west? No other railway system could touch that country in the least.

787. Will you describe the present road from Tamworth towards Manilla? For the first 7 miles to 1 mile past Attunga Village the road has been pretty well formed and metalled all through.

788. What would it cost to put a road in similar order? £600 a mile. From the point stated as 1 mile past Attunga Village to Attunga Creek the road has only been cleared at a cost of £40 a mile. That distance is 2 miles. From Attunga Creek to Burdekin's Springs, a distance of 4½ miles, the road has been formed and metalled.

789. What would it cost to put that road in the order in which it is in now? About £600 a mile, exclusive of two bridges. From that point for another mile and a quarter, the road has also been metalled at the same cost. For the next 3 miles it has been formed and metalled in places at an expenditure, roughly speaking, of about £300 a mile. From that point, near Norriss', to portion 72, a little over 2 miles, it has only been cleared at a cost of £30 a mile. From portion 72 to Manilla it has been metalled right through at a cost of £600 a mile.

790. *Mr. Fegan.*] If the line were constructed would it materially save expenditure on the road? Yes, to the extent of £350 a year.

791. I suppose it would ultimately save a great deal more than that? I think there would always be some expenditure necessary on the road.

792. Could you keep the road in order, if the railway were constructed, for £1,000? Yes; I have £2,000 voted now for the road from here to Barraba, or £1,000 to Manilla; and if the line is constructed it will make the expenditure on the road less by £350.

793.

Mr. C. W. Jenkins, A.M.I.C.E. 28 Mar., 1896.

793. *Mr. Roberts.*] What is the width of the constructed road from Tamworth to Manilla? From Tamworth to Attunga Creek it is 1½ chain. From there to the mail station, 2 miles from Attunga Creek, it is 1½ chain. It then increases to 10 chains, and widens out into the Travelling Stock Route. Four miles from Manilla it returns to 1½ chain.
794. What would be the least width upon which, in your opinion, the railway and road could run alongside each other. In flat country, 2 chains would be sufficient. In heavier country, where there would be deeper cuttings, a greater area would be required. On most of the length from Tamworth to Manilla 2 chains would be sufficient.
795. *Mr. Fegan.*] The people have asked for a railway to be constructed for their convenience and there being so much traffic on the road, do you not think that the Government should introduce some regulation whereby the tires of wheels should be widened? I am strongly of that opinion. I think legislation in that direction is urgently needed.

Mr. William Darley Dowe, Inspector of Stock, Tamworth District, sworn, and examined:—

Mr. W. D. Dow. 28 Mar., 1896.

796. *Chairman.*] How long have you been here? I have been Inspector of Stock for twenty years.
797. How many cattle are there in the county of Darling? About 50,000 cattle, 30,000 horses, and a little under 1,000,000 sheep at present.
798. Do you believe the traffic connected with this pastoral area would regard Manilla as its depôt? No, very few stock come to Tamworth now to truck at all. Most of the stock above Manilla turn off at Tarpolly Creek and go towards Breeza.
799. Do you believe the wool would make Manilla its depôt? Yes.
800. Would Manilla be the trade centre for those engaged in the pastoral industry all over the county of Darling? Although I believe there will be a great tendency for the stock to travel to market and not use the train, still all the business incidental to the enterprise would regard Manilla as its centre.
801. Have you any idea what the wool clip of the county of Darling is? The county should carry quite 1,000,000 sheep, and the clip should average about 5 lb. a sheep.
802. How many pounds of wool go to the bale? Three hundred and a half generally. Take it as 80 sheep to the bale and there would be, roughly speaking, about 12,000 bales. There are roughly speaking 6 bales to the ton. There would be, therefore, about 2,000 tons of wool produced.
803. How do you view the county of Darling for pastoral enterprise? Most of it is very good until you get between Barraba and Bundarra.
804. Do you know the flats on the Namoi River, creeks and the tributaries? Yes; it is nearly all first-class land—good for agriculture and grazing.
805. Almost as good as Liverpool Plains? Yes, from Ironbark Creek station to the table-land, I regard as very inferior country.
806. What about the country lying west of the Moonbie? That is the granite country. With regard to the granite belt which runs under the range towards the west the country may be regarded as fairly good agricultural country on the flats, and fairly good pastoral country on the hills. Even about Barraba there is a considerable area of country which is well fitted for wheat-growing. I think also fruit may be grown there successfully.
807. *Mr. Fegan.*] Do you not think that if people could get their sheep to market a day or two sooner by rail they would take advantage of it? Since I have been here, very few sheep have been trucked since the railway has been constructed.
808. Is not that on account of the want of railway facilities? It may have something to do with it.
809. Do you not think if there was railway communication with Manilla a large number would be sent to Tamworth? They might truck to Tamworth in small lots; but I do not think they would be trucked to Flemington. Sheep and other stock in small lots will use the railway.
810. Do you think the estimate of the Department of 500 trucks of stock will be realised? Yes; I do not think that is over-estimated.
811. *Chairman.*] Do you think, over the whole area of the county of Darling, any wool coming from the north would pass Manilla and come to Tamworth were there a railway station at Manilla? It would not pass Manilla; I believe it would unload there. I may state that the estimates of this year are not a fair index with regard to the county of Darling. A severe drought has lessened the number of stock considerably; but the statements I have given may be regarded as approximately correct.

Mr. Alexander Christopher McLeod, auctioneer, Tamworth, sworn, and examined:—

Mr. A. C. McLeod. 28 Mar., 1896.

812. *Chairman.*] You did the valuation for the Municipal Council of Tamworth lately? Yes.
813. Do you know where the proposed railway turns off from Tamworth? Yes; in Darling-street.
814. Passing from Darling-street to Macquarie-street, what does land sell at? On lots 2, 3, 4, 5, marked on your plan, there are about £150 worth of improvements in buildings, and about £190 worth of land? Yes.
815. Do you think it might be obtained for that? Yes.
816. Is that the selling value or the ratable value? It is the value we have put on for rating purposes. It is not nine-tenths of the value, but the full absolute value.
817. What is the value of the mill? In valuing a mill there are many things to be considered. There is a siding there, and it will be difficult to get another as suitable in Tamworth. About £1,000 would be fair compensation.
818. Supposing the railway resumption went within a few feet of the mill chimney, could the work of the mill be carried on? I do not think it would affect them very much; but if you took the siding you would have to allow compensation.
819. What do you value the mill, the machinery, and the position at? £1,800.
820. What is the total value of land and improvements in the area lying between Darling-street and Macquarie-street? About £1,350.
821. Could it be obtained for any less than that? I do not think so.
822. Supposing the machinery were used and sold again, what would it bring? About £800, including the building material.

Mr. A. C. McLeod. 28 Mar., 1896.

823. Passing from there to the other side of Macquarie-street, there is an area of land bounded by Macquarie-street, Carthage-street, and O'Connell-street? That is Government land, all reserved. Then we pass on to O'Connell-street without any interference with private interests at all, and thence to Bligh-street to the back of No. 10. Between O'Connell and Bligh Streets you would not be able to resume the land, with the small cottages thereon, under £250. Then you pass section 19, of which the railway would cut off about £50 worth. Then you cross North-street to section 21, of which the railway would cut off £60 worth. It then goes through allotments 22 and 23, which would cut off £50 worth of land and buildings; through 25 and 26, £10 worth of land only. In regard to lot 27 it would cut off about £30 worth; lot 28, about £20 worth; lot 29, £20 worth. It then goes across Piper-street into allotment 31, and cuts off £40 worth of land. It then goes across Dean-street to allotments 33 and 34, and cuts off £50 worth of land; through allotment 35, and cuts off £30 worth; 36, of which there are two divisions, upon one of which is a house, and the railway would take it, doing damage to the extent of £130 for house and land; 37, £30 land. In connection with allotment 38, it takes away a stable, which, with the land, I value at £40. On allotment 39 there is another set of stables, which, with the land, will come to £70. Then there is another piece of allotment 39 which is taken, and the railway cuts off £30 worth of land. Coming back from 35 to Hunt-street, there is a lane, and the railway takes it; it destroys the back entrance to the property. I have not considered that, but it would somewhat increase these amounts. With regard to allotment 41, you would take away a brick building, which, with the land, I value at £160. Allotment 42, £25. Crossing to 44, you take the front garden of a house, and destroy about £50 worth of land. Allotment 45, £35 worth of land. Here we pass the main road to Manilla, and get into the open paddocks. From allotments 47 to 51 you take away £60 worth of land, not including severance. Allotments 52 and 53, £40; allotments 55 and 56, £40; allotments 58 to 63, £60; allotment 65, £20. At the main road the railway cuts off the areas from water-frontage. With regard to allotments 47 to 51, which is up to the street, I estimate the severance at £25. With regard to allotments 52 to 53, I estimate the severance at £100. The severance in allotments 55 and 56 I estimate at £50. The severance in allotments 58, from the municipal boundary, I estimate at £100. This totals up to about £3,010.

824. You have not added anything on for forced sale? No.

825. Do you know where the line is located from Tamworth to Attunga Creek? Yes. I value the land from the municipal boundary for a distance of 2 miles out at about £8 an acre. To this you must add any improvements, or orchards and severance. It is difficult to say what the severance would be without taking into consideration every portion. If the railway adjoined the road and did not interfere with the houses, that is the price which might reasonably be expected to be paid for the land.

826. Taking the bare value of the cultivable area from here to Attunga, at what do you estimate its worth? From 2 miles from the municipal boundary to reserve 1,508, I consider it to be worth £6 an acre. From there to Attunga Creek, which is about 4 miles, it is of the same value. I believe the bare value of the land through the Attunga freehold is £4 an acre. Beyond this point I think it is worth £3 an acre. I may add that to all these values severance value must be added. It is impossible to state absolutely what the severance cost will be unless I know whether the line will ultimately be fenced or not.

MONDAY, 30 *MARCH*, 1896.

[*The Sectional Committee met at the Great Northern Hotel, Newcastle, at* 8·30 *a.m.*]

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.
George Black, Esq.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

Mr. Rudolph Langer, Chairman, Cornish Copper-Mining Company (Limited), Newcastle, sworn, and examined:—

Mr. R. Langer. 30 Mar., 1896

827. *Chairman.*] Have you any statement to make? Yes. I hand in a written statement, as follows:—The nominal capital of the Cornish Copper-Mining Company is £8,000, in 32,000 shares at 5s. each; Subscribed and fully paid up capital, £3,000. The company's mine and smelting works are situated at Gulf Creek, near Barraba. A small furnace is erected which reduces the ores as mined into regulus of average quality of 57% to 60%. Average percentage of ore, calculated as the actual quantity of metal extracted (during last half-year), 12½%. Width of lode, 1 foot 6 inches to 16 feet; produced last half-year, 80 tons of regulus; 60 tons of ore forwarded for treatment to Newcastle; average quality over 16%. Estimated freight for year ending 31st May, 1896, 330 tons. Estimated value of receipts from sale of regulus, &c., from mine for year ending 31st May, 1896, £5,000; number of hands employed in and about mine, smelting works, &c., thirty-five men; depth of working, 122 feet; area of land under lease and applied, 250 acres; railway freight for year ending 31st May, 1896, estimated value, £260; road carriage for year ending 31st May, 1896, estimated value, £600; profit on capital earned during previous half-year at the rate of 28 per cent. per annum. The above company is now in existence for about three years, and was originally started by a number of working-men with insufficient capital to develop the mine and to erect necessary machinery, &c. About eighteen months ago the then paid-up capital of the company was exhausted, and liabilities to the extent of over £500 incurred. By the aid of a number of shareholders fresh capital to the amount of about £900 was subsequently raised, the liabilities wiped off, and matters put more shipshape. The labour on the mine was largely increased and smelting operations resumed; developments were taken in hand and working considerably extended. It is now expected to have the daily output of the mine reach about 40 tons per day within two months, and the erection of a water-jacket blast-furnace, which is now on the road to the mine, will be immediately proceeded with. The output will, of course, be enormously increased, necessitating, on the calculation of 180 tons of ore smelted and reduced to fine copper, provision for carriage of 50 tons per week. It will be seen at a glance that within reasonable time even this comparatively large increase must, by the further extent of developments, enormously increase, and in itself largely add to

the

Mr. R. Langer. 30 Mar., 1896.

the number of hands employed, who again will use the proposed railway for the conveyance of passengers and goods traffic to supply the settlement. From the statistics given in the beginning, it will be seen that the mine is established at a thorough paying basis. So far the whole of the profits have been reinvested in the mine for its further development. The success of the mine, in the opinion of the manager and the board of directors, is assured, and within a few months the company's mine will take its place as one of the largest copper-producing properties in New South Wales. The extension of the railway from Tamworth to Manilla would be a great help to the company, still, as chairman of this company, and having an acquaintance with the country as far as Barraba and Gulf Creek, it seems to me that the magnificent agricultural lands and the late great development of mining near Barraba should be sufficient inducement to extend the proposed railway as far as Barraba, and ultimately to Bingera.

828. *Mr. Roberts.*] Have you declared any dividend? No; the whole of the profits have been devoted to the development of the mine.

829. When do you expect you will be in a position to pay dividends? Within the next few months.

830. *Chairman.*] How far is it from Tamworth to the mine? Seventy-five or seventy-eight miles.

831. What do you pay per ton for carriage? About 32s.

832. Is it a cheap rate? Yes; it has been reduced from £2 15s.

833. Have you a contract for carriage at 30s. a ton? No; but trams have been carrying for fifteen months at that price.

834. Do they get any back loading? Yes, mining stores and so on.

835. *Mr. Fegan.*] With the back loading, I presume they will earn about £2 a ton for the return journey? Yes.

836. *Mr. Roberts.*] If a railway were constructed to Manilla, would you unload at that station? Undoubtedly, it would save us 9s. per ton.

837. Instead of doing business with Tamworth, you would do it with Manilla? Yes.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

Railway from Tamworth to Manilla.

SECTIONAL COMMITTEE.

APPENDIX.

A.

[*To Evidence of C. Baldwin, Esq.*]

LAND REQUIRED FOR THE PROPOSED RAILWAY.

Sir, Durham Court, Manilla, 19 April, 1896.

In reply to the message from you, through Mr. Loughnan, I have to say that I am quite willing to give my land on the west bank or west side of Greenhatches Creek, and convey same to the Crown on conditions that a line of railway will be constructed on it.

At the same time I presume that access to the water in the creek by me will not be wholly interrupted.

Yours, &c.,
CHAS. BALDWIN.

The Chairman, Public Works Committee.

[Plan.]

Sydney: Charles Potter, Government Printer.—1896.

TAMWORTH TO MANILLA RAILWAY

PLAN

SCALE

CHAINS 40 30 20 10 0 40 80 120 160 200
MILES ½ 0 ½ 1 2

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES

— NOTES —

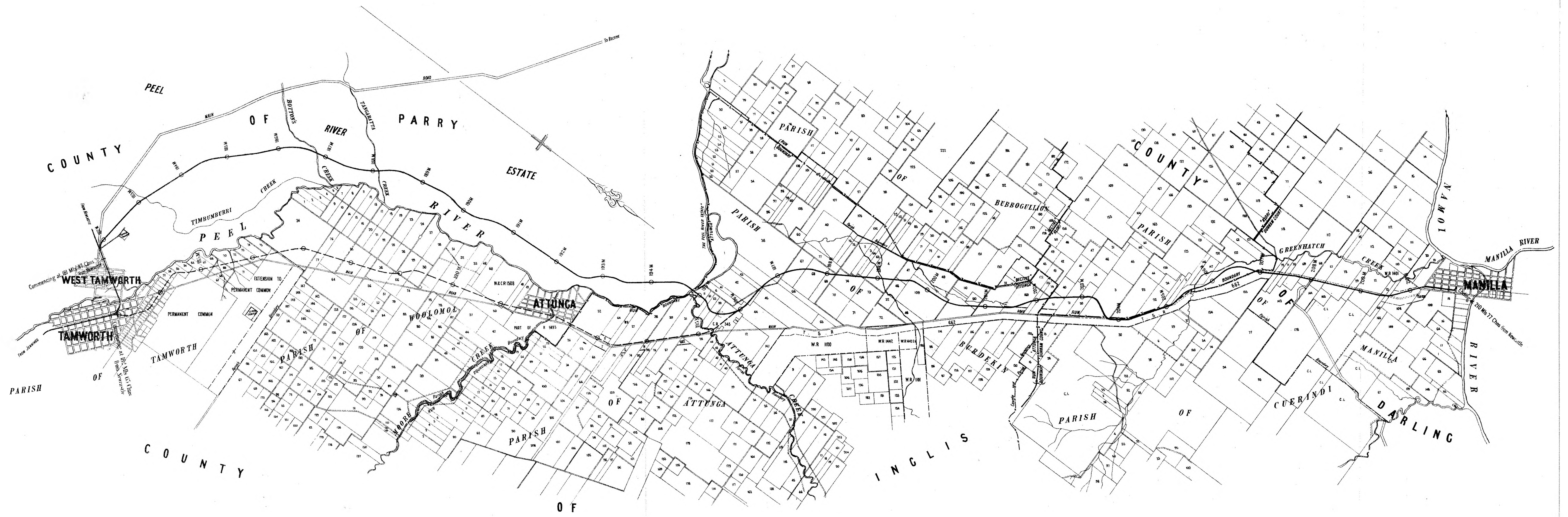
Line recommended by the Public Works Committee shewn thus ————

Line originally submitted shewn thus - - - - -

H. Deane
Engineer-in-Chief for Railway Construction

(*26)

R.16



1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE AND PLANS,

RELATING TO THE

PROPOSED RAILWAY

FROM

NEVERTIRE TO WARREN.

Presented to Parliament in accordance with the provisions of the Public Works Act, 51 Vic. No. 37.

Printed under No. 3 *Report from Printing Committee* 4 *June,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP-STREET.

[2*s.* 6*d.* * 75— 1896.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable FREDERICK THOMAS HUMPHERY, Vice-Chairman.
The Honorable JOHN DAVIES, C.M.G.
The Honorable JAMES HOSKINS.
The Honorable CHARLES JAMES ROBERTS, C.M.G.
The Honorable WILLIAM JOSEPH TRICKETT.

LEGISLATIVE ASSEMBLY.

THOMAS THOMSON EWING, Esquire, Chairman.
HENRY CLARKE, Esquire.
CHARLES ALFRED LEE, Esquire.
JOHN LIONEL FEGAN, Esquire.
THOMAS HENRY HASSALL, Esquire.
GEORGE BLACK, Esquire.
FRANCIS AUGUSTUS WRIGHT, Esquire.

MEMBERS OF THE SECTIONAL COMMITTEE.

The Honorable WILLIAM JOSEPH TRICKETT, Chairman.
THOMAS HENRY HASSALL, Esquire.
FRANCIS AUGUSTUS WRIGHT, Esquire.

GENERAL INDEX.

LIST OF WITNESSES.

[*Examined before the Committee.*]

[*Examined before the Sectional Committee.*]

PLANS.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RAILWAY FROM NEVERTIRE TO WARREN.

REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, and the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of railway from Nevertire to Warren," have, after due inquiry, resolved that it is expedient the proposed railway should be constructed; and, in accordance with the provision of subsection IV, of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly :—

History of the proposal.

1. The initial steps in connection with this line appear to have been taken in May, 1882, by residents of Warren. The Resident Engineer at Bathurst reported, in March, 1883, that a line could be constructed for about £2,200 per mile, or a total of £30,000. In September of the same year some 400 residents of Warren and the surrounding districts petitioned the Minister in favour of a light railway or a tramway. In November, 1885, a trial survey between Nevertire and Warren was completed. A petition was received in June, 1887, for the repair of the road between Nevertire and Warren, and on the papers having reference to the question being referred to the local Roads Officer, he reported that the road was a bad one, on black soil, and there being no metal convenient it would be much cheaper in the end to construct a light line of railway. A description of the proposed line was, on 4th May, 1888, forwarded by the Engineer-in-Chief for Railways to the Minister, the length being stated at about $12\frac{1}{4}$ miles, and the earthworks very light, consisting chiefly of forming. No proper estimate was then prepared, but it was stated that the cost of a cheap line, if constructed below the flood-level of the Macquarie, would be, approximately, about £3,500 per mile. During 1892 the Minister approved of a re-survey of the line for the purpose of framing an estimate for a light railway between Nevertire and Warren. On 21st January, 1893, the Engineer-in-Chief estimated the total cost of the proposed railway at about £3,114 per mile. The proposed work, at an estimated cost of £2,692 per mile, was, in December last, referred by Parliament to the Public Works Committee, it being made clear during the discussion which took place on the motion to refer the railway to the Committee that the line was not submitted as part of a railway to Coonamble and Walgett.

Official description.

2. The proposed railway leaves the Great Western Railway at the western end of Nevertire Station, 341 miles 20 chains from Sydney, proceeding in a north-easterly direction until the main road to Warren is reached. From that point it follows approximately along the road, on its eastern side, to near Warren, and, after diverging slightly towards the north, it ends near the north-west corner of the township. The works will be generally light. The ruling grade is 1 in 100, and the sharpest curve 15 chains radius.

Estimated cost.

3. The length of the line is 12 miles 13 chains. The estimated cost per mile is £2,692, or a total of £32,730, exclusive of land resumption.

Railway Commissioners' Report.

4. The Railway Commissioners report that the line will be a payable one from its opening. "It has," they say, "the further advantage that the whole revenue earned upon it will be new revenue to the Railway Department, and will not be traffic diverted from existing stations." Their estimate of the total annual cost of the proposed railway is £2,695, made up of the following items:—Interest on capital expenditure of £32,730 at 3½ per cent., £1,145; cost of maintenance of permanent way, £500; locomotive and traffic expenses, £1,050. The carriage of passengers is expected to bring in a sum of £400 yearly; merchandise and live stock traffic, £2,250; mails, £144; the total revenue amounting to £2,794, or £99 in excess of the estimated annual cost of the line. The proposed railway will pass through Crown land for nearly the whole distance. The report states:—"Very little private land is concerned, but we recommend that it should be made a condition that the people of the district should arrange for the conveyance to the Government of any private lands that may be required, free of expense. The representatives of Warren whom we met expressed their readiness to make this agreement."

The Committee's inquiry.

5. The Engineer-in-Chief for Railway Construction furnished the Committee with a statement with regard to the proposal and also supplied estimates of cost in detail. The views of the Railway Commissioners with regard to the railway, and the basis of their estimate of the traffic results from it were supplied by the Secretary to the Railway Commissioners and the Railway Goods Superintendent. A Sectional Committee subsequently visited the district and obtained all necessary local information.

Sectional Committee's Report.

6. The Sectional Committee report favourably upon the construction of the proposed railway. They confirm the statement made by witnesses regarding the unsuitableness of the road from Nevertire to Warren for traffic purposes. Owing to the absence of suitable material, the cost of constructing a good road capable of carrying the traffic would be very great. Warren is the centre of a large and fertile district, the surrounding country being suitable for pastoral and agricultural purposes. As a site for trucking stock, Warren could hardly be excelled, there being an abundant water supply and a large area of commonage around the town, where several travelling stock routes converge. In recommending the construction of the railway, the Sectional Committee express the opinion that the cost should be kept well within the sum estimated by the Department, and that in all probability the Departmental estimate of revenue will be realised.

Expected traffic on the proposed railway.

7. A very large proportion of the traffic dealt with at Nevertire passes through Warren, and it is anticipated the proposed railway will secure the whole of it. The Railway Goods Superintendent, who was examined with respect to the probable traffic, is of opinion that this will be new revenue, and that no existing railway centres will suffer through the construction of the line.

Land resumption.

8. The question of compensation for land necessary for the railway is not of pressing importance. The route as surveyed passes through only a small portion of private land, which should not entail any large expenditure. The people are, however, powerless to take the initiative in this matter, but, the Government having resumed the land, will be able readily to obtain from those most interested a sufficient sum to pay all legitimate demands. The Mayor of Warren has given an assurance that the amount required will be forthcoming.

Necessity for the railway.

9. The main reasons given in support of the proposal to connect Warren with the railway system of the Colony are:—

(1.) The bad condition of the road between Nevertire and Warren both for travelling stock and vehicular traffic.
(2.) The large outlay necessary to construct a suitable road.
(3.) The unsuitableness of Nevertire for a railway depôt.
(4.) The advantages possessed by Warren as a trucking centre.

Referring to the first of these, it is stated that 200,000 sheep travel the road between Warren and Nevertire annually, and that fat stock depreciate in value owing to the state of the road and the prevalence of the Bathurst burr. The Department has spent a large sum of money in endeavouring to form a portion of the road, with unsatisfactory results.

Nevertire is unsuitable as a railway depôt for stock, not only by reason of the bad approach but also from the fact that although there is no other available supply the animals refuse to drink the water at the Government tank.

At Warren there is a permanent supply of good water and ample commonage, which render it eminently suitable for a trucking centre.

The railway will assist in the development of the country beyond the Macquarie, and save the construction of a costly road between Nevertire and Warren. The construction of this line practically means the transference of the depôt for the produce of a great area of country from an unsuitable and, at times, almost inaccessible depôt at Nevertire to a suitable one at Warren.

Method of construction.

10. The country through which it is proposed to carry the railway is level, presenting few engineering difficulties. About 4 of the 12 miles of line will pass through land subject to inundation, and in time of exceptionally high floods some of this portion will be submerged, even if considerable flood openings, to provide for the ordinary overflow of the Macquarie River and its tributaries, be constructed. The line will be unfenced—half-round sleepers and 60-lb. rails will be used. As it is a light surface railway, the Committee are of opinion that it should be constructed at a cost well within the Departmental estimate.

Decision of the Committee.

11. The Committee have unanimously affirmed the expediency of carrying out the proposed railway.

Resolution of the Committee.

12. The resolution passed by the Committee is shown in the following extract from their Minutes of Proceedings of 20th May :—

Mr. Lee moved—

"That the Committee proceed to consider the evidence on the proposed Railway from Nevertire to Warren, with a view to reporting on the subject to the Legislative Assembly."

The motion was seconded by Mr. Trickett, and passed.

Mr. Lee moved—

"That, in the opinion of the Committee, it is expedient the proposed Railway from Nevertire to Warren, as referred to the Committee by the Legislative Assembly, be carried out."

The motion was seconded by Mr. Trickett, and passed.

THOS. EWING,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 20 May, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

RAILWAY FROM NEVERTIRE TO WARREN.

TUESDAY, 21 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Henry Clarke, Esq.
The Hon. John Davies, C.M.G.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.

George Black, Esq.

The Committee proceeded to consider the proposed Railway from Nevertire to Warren.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and examined:—

H. Deane, Esq.

21 April, 1896.

1. *Chairman.*] You produce a Departmental statement signed by the Under Secretary for Public Works? Yes.

2. Will you read it, please? This proposed line was first brought before the Department in May, 1882, when a public meeting was held at Warren, and resolutions in favour of the construction of a tramway from that place to Nevertire were passed, and copies of same forwarded to the then Minister for Works, Mr. Lackey. The Minister promised to give the matter consideration. In February, 1883, Mr. Copeland, who had succeeded Mr. Lackey as Minister, directed that a report should be obtained in regard to the proposed line. Mr. Avern, the Resident Engineer at Bathurst, accordingly made an exhaustive report on the proposal (7/3/83), and estimated that a line could be constructed for about £2,200 per mile, or £30,000 in all, including bridging of two creeks and necessary terminal arrangements. The residents of Warren and surrounding districts continued their agitation for a line, and in September, 1883, forwarded to Mr. Secretary Wright a petition signed by nearly 400 people in favour of a light railway or tramway. A deputation from Warren, accompanied by Sir Patrick Jennings and Mr. Cass, M.P., also waited on the Minister and urged that the line be built, which they thought could be done for a sum of £20,000. Mr. Wright, in reply, promised to have a further report made, and on the papers being referred to the then Commissioner for Railways, that officer considered that the line, including rails, would cost about £51,000. In September, 1885, a further deputation, introduced by Sir Patrick Jennings and Mr. Cass, M.P., waited upon Mr. Wright and asked that a trial survey be made between Nevertire and Warren. The Minister approved of this being done, and the survey was completed by Mr. Surveyor Carter in November, 1885. In June, 1887, a petition for the repair of the road between Nevertire and Warren was received, and on the paper being referred to the Local Roads Officer (Mr. R. A. Fraser) that officer reported that certain repairs were then being carried out, but the road throughout was a bad one, on black soil, and there being no metal convenient he considered it would be much cheaper in the end to construct a light line of railway. The Engineer-in-Chief for Railways, on the 4th May, 1888, forwarded to the Minister a description of the proposed line, which showed that the length would be about 12¼ miles, and the earthworks very light, consisting chiefly of forming. No proper estimate was prepared at that time, but it was stated that the cost of a cheap line, if constructed below the flood level of the Macquarie River, would be approximately about £3,500 per mile—£45,000. In 1891, Mr. R. E. Jones, who was acting as Examiner of Public Works Proposals, was instructed to report, amongst other lines, on the proposal to extend the railway from Nevertire to Walgett, of which the line now under consideration forms a very small part. His conclusion was, however, that the extension should be made from Mudgee, and he did not deal particularly with this particular portion of the line. On the 20th August, 1892, Mr. Lyne approved of a re-survey of the line being made between Nevertire and Warren, so that an estimate could be prepared for a light line. In December, 1892, a deputation, representing the residents of Warren and district, introduced by Messrs. Morgan and A'Beckett, Ms.P., waited upon Mr. Secretary Lyne and urged the construction of the line. They represented that the people of the district were anxious to establish meat freezing works, and would do so if the railway were built. Mr. Morgan stated that the district carried 193,000 sheep and that the passenger traffic would be considerable. The Minister informed the deputation that the survey was being proceeded with, and he believed that the line could be built for something under £2,000 a mile. The survey having been completed, Mr. Deane (Engineer-in-Chief for Railway Construction), on the 21st January, 1893, forwarded

for

H. Deane, Esq.

21 April, 1896.

for the Minister's information an estimate which showed that the total expense of the running road would be £31,000, or about £2,418 per mile, but to complete the line, certain other expenditure for station buildings, junction works, &c., would be required, amounting to a further sum of £8,930, or £3,114 per mile. On the 16th January, 1894, another deputation in favour of the construction of the railway, waited upon Mr. Lyne. The advisability of constructing a railway instead of making and maintaining an expensive road was strongly brought under attention, and the Minister promised to submit the matter to Cabinet with a view to having it referred to the Public Works Committee. On the 27th March, 1895, Mr H Macdonald, M P, wrote enclosing copies of resolutions passed at a public meeting held in Warren, urging establishment of railway communication between Nevertire and Warren, and early in June of the same year petitions in favour of the proposal were forwarded to the Premier and Mr Secretary Young In June last year the Government came to the decision to refer the question to this Committee for consideration, and the Railway Commissioners were accordingly asked to submit their report as required by the Public Works Act.

The official description of the line is as follows —

NEVERTIRE TO WARREN RAILWAY.

Length 12 miles 13 chains—Estimated cost £32,730, or £2,692 per mile, exclusive of land and compensation

This proposed light railway begins by a junction with the Great Western Railway at the western end of Nevertire Station at 341 miles 20 chains from Sydney, and proceeds in a north-easterly direction until the main road to Warren is reached, thence it follows approximately along the road on its eastern side to near Warren, where, after diverging slightly towards the north, it ends near the north-west corner of the township. The works will be generally light, the ruling grade being 1 in 100, and the sharpest curve 15 chains radius. Materials suitable for construction are scarce.

The Railway Commissioners' Report, which is dated 8th October, 1895, is as follows:—

Proposed Branch Line of Railway, Nevertire to Warren—12 miles 13 chains

In accordance with the provisions of the "Public Works Act of 1888," section 13, we beg to report as under —

Cost of construction—	
The Engineer-in Chief estimates the cost of construction of a single line of light railway (exclusive of land and compensation) at	£32,730
Annual cost—	
Interest on capital expenditure at 3½ per cent	1,145
Cost of maintenance of permanent way	500
Locomotive and traffic expenses	1,050
Total annual cost	£2,695
Traffic estimate—	
Passenger traffic	400
Merchandise and live stock traffic	2,250
Mails	144
Total annual revenue	£2,794

The proposed line passes through Crown property nearly the whole way Very little private land is concerned, but we recommend that it should be made a condition that the people of the district should arrange for the conveyance to the Government of any private lands that may be required, free of expense. The representatives of Warren whom we met expressed their readiness to make this agreement

An exceedingly large proportion of the traffic dealt with at Nevertire Station comes in from the district lying to the north west, and the roads from all directions converge upon Warren The road between Warren and Nevertire Station is not a good one for either stock or vehicular traffic; it is almost certain, therefore, that the whole traffic now passing through Warren will be placed upon the railway at that point, if the line is constructed

In our opinion the line will be a paying one from its opening, and it has the further advantage that the whole revenue earned upon it will be new revenue to the Railway Department, and will not be traffic diverted from existing stations.

(Signed) E M. G EDDY,
Chief Commissioner.
CHARLES OLIVER,
Commissioner.
W. M FEHON,
Commissioner.

On the 11th December, 1895, the proposal was referred to this Committee by Parliament in the following terms:—"That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of constructing a line of railway from Nevertire to Warren" In the discussion which took place on this motion it was made clear that the line was submitted as a distinct extension in itself, and not as part of an extension to Coonamble and Walgett, although it is, of course, possible that in the future extension in that direction will take place.

3. You desire to hand in certain plans? Yes; I hand in a parish map showing the proposed Nevertire to Warren Railway, the general map; the detail plan of the survey, 10 chains to an inch; the section of the line, drawn to a scale of 10 chains horizontal and 100 feet vertical; and also the Book of Reference.

THURSDAY,

THURSDAY, 30 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (CHAIRMAN).

The Hon. FREDERICK THOMAS HUMPHERY.	CHARLES ALFRED LEE, Esq.
The Hon. JOHN DAVIES, C.M.G.	JOHN LIONEL FEGAN, Esq.
The Hon. CHARLES JAMES ROBERTS, C.M.G.	THOMAS HENRY HASSALL, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	GEORGE BLACK, Esq.
HENRY CLARKE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Railway from Nevertire to Warren.

John Harper, Esq., Goods Superintendent, Department of Railways, sworn, and examined:—

J. Harper, Esq. 30 April, 1896.

4. *Mr. Lee.*] Have you prepared a statement with regard to the estimated traffic on the proposed railway? I have a report here which I will read:—

New South Wales Government Railways, Goods Superintendent's Office, Sydney, 4 October, 1895.

Nevertire to Warren Railway.

The distance between Nevertire and Warren by the projected line is 12 miles.

The road is of such a character that it becomes at times absolutely impassable. This occurs chiefly during the winter months, and continues, as a rule, until about October in the wool season.

Practically, the whole of the traffic loaded at Nevertire station comes *via* Warren; many roads converging at this point on the Macquarie, causing produce from as far north as Walgett, north-east as Coonamble, and north-west as Mount Harris, to find its way by this route.

I have carefully analysed the returns of the Nevertire station for the purpose of ascertaining the wool, goods, and live-stock which will be served by the proposed line, and find that a very large passenger traffic from Coonamble and the districts surrounding Warren also finds its way to that point. The distance from Warren to Coonamble is 60 miles, or about 73 to Nevertire, and although the district from Nevertire to Sydney is 341 miles, as against 278 from Dubbo, the bulk of the passenger traffic coming from Coonamble finds its way to Warren and Nevertire. The local rates of carriage between Nevertire and Warren are very high owing to the character of the road, and the fact of a large portion of the route consisting of a narrow lane causes the live-stock, which is trucked at Nevertire, to suffer very considerably. In addition to this, the water at Nevertire is very defective, and stock will not, as a rule, drink it; the camping ground at the latter point is also absolutely destitute of feed and very limited in extent. On the other hand, at Warren a very extensive common, intersected by the Macquarie River and several contributing creeks, is available, and the disposition, therefore, would undoubtedly be to load stock and wool at the latter point, provided the railway were constructed.

At the present time the storekeepers are paying 15s. per ton for the carriage of their goods between the two points, and the coach fares are from 5s. to 10s. for passengers according to the condition of the road.

When the Commissioners were at Warren on the 2nd instant, the representatives of the town and district expressed themselves prepared to pay special rates should the railway be constructed. I append my estimate of the probable traffic based, as I already stated, on the ascertained traffic at Nevertire station and the rates which the people of Warren expressed themselves willing to pay:—

Goods (inwards and outwards), 3,500 tons at 5s. per ton	£875
Wool, 40,000 bales, equal to 7,000 tons, at 3s. per ton	£1,050
Live-stock, 2,500 trucks at 2s. 6d. each	£312
Passenger traffic, 4,000 passengers at 2s.	£400
Mails	£144
Total	£2,781

Under ordinary circumstances I should have some doubt as to whether these rates would be paid over this mileage, but as I have already pointed out, the existing means of communication between Warren and Nevertire are of such a character and the conditions in favour of teams camping at Warren, as against Nevertire, so great that I have no doubt these promises will be carried out, and I am disposed to think that the line would pay interest on capital cost and working expenses from its opening.

New South Wales Government Railways, Goods Superintendent's Office, Sydney, 30 September, 1895.

Nevertire to Warren Railway.

The distance between Nevertire and Warren is 12 miles.

The road is of such a character that it becomes at times impassable. This occurs during the winter months especially, and continues, as a rule, until about October in the wool season.

Practically, the whole of the traffic which is received at Nevertire comes *via* Warren, and assuming that it were trucked at the latter point, the earnings of the line would estimate as follows:—

Goods, 3,500 tons at 4s. per ton	£700
Wool (40,000 bales), 7,000 tons at 2s. 6d.	£875
Live-stock, 2,500 trucks at 2s. per truck	£250
Passenger and parcel traffic	£400
Mails	£144
Total	£,2369

5. It shows an advance in the case of goods 35 per cent.? Yes.

6. You are depending largely on the traffic coming in from Coonamble and Walgett? Yes.

7. The traffic having got as far as Warren do you not think there is a possibility of its proceeding to Nevertire instead of unloading at Warren? No; my impression is that they would truck at Warren for the reason which I have pointed out. The road during the greater part of the year is almost impassable. Sheep travelling over that road would be depreciated nearly as much per head as we should charge per truck from Warren. There is good camping on the river at Warren, but the road to Nevertire is one of the worst pieces of road that can be conceived.

8. Is there any market for stock at Nevertire? No.

9. Any meat works? No.

10. You infer then that the stock trucked at Warren would be intended to go over the parent line? Yes and this would contribute to the earnings of that line.

11. How is the country held about Warren? There is a considerable area to the north still in the hands of the Crown. When I was there some months ago the Government were cutting up a lot of land into small settlements to the north, the north-east, and north-west to Warren, on the creeks and rivers.

12. Are there many selectors there? Yes; a good many.

13. In your estimate you do not include the prospective traffic? No; it represents the traffic for a year at the Nevertire station.

J. Harper, Esq.
30 April, 1896.

14. I notice that the difference between your two estimates is somewhat large; the local rates in the case of goods advance 25 per cent., and in the case of wool they are 6d. per ton more, and live stock 6d. per truck more? Yes.
15. Would that prevent any of the stock from travelling by the railway? No; I have already mentioned the advantage of the good camping reserve at Warren.
16. You attach great importance to the fact of there being fine camping ground about Warren? Yes.
17. When the seasons are good, do you not think that much of the stock would go by road? No; in good seasons the road is soft, and during a drought there is no water available.
18. What is the distance? Thirteen miles.
19. They are not likely to drive stock 13 miles to save 2s. 6d. a truck? No.
20. It would cost more to drive them? It would in cost of droving and loss of condition.
21. What other sources of revenue do you anticipate in the future? Agriculture is at present only carried on to a limited extent there, but they get very good crops of hay, and have a fairly good rain-fall —about 25 inches a year.
22. Is not that country subject to floods? Action is being taken now by putting in weirs to neutralise the floods; the water being diverted into channels.
23. Have you calculated for a daily service? Yes, the same as on the main line; one train out and one back. During the time when stock are being trucked heavily it will necessitate more than one train.
24. To which railway station does most of that traffic go at present? All of it goes to Nevertire. I have not included anything that goes anywhere else. There is a possibility that some of the traffic further east which goes to Narromine or down to Dubbo, might go to Warren, but I do not calculate on that.
25. You estimate that the whole of it will be new revenue? Yes.
26. And that no other railway station will be robbed by the construction of this line? No.
27. Necessarily the estimate is an approximate one? Yes.
28. And the season you based upon was rather a good one? Yes.
29. It is possible that your figures might in some years be reduced to one-half? I do not think that.
30. Of course that line of railway would have to submit to the same chances as any other? Yes.
31. What is the population of Warren? Eight hundred and sixty.
32. And what would be the prospect of a future extension beyond Warren? There is a possibility of its extension to Coonamble or to Walgett if deemed desirable. It is a line almost at right angles to the existing main line.
33. Without reference to any future extension, you feel certain that the traffic will be there? Yes.
34. Is there any mining in the vicinity of Warren? No.
35. The line would depend upon the produce of the land? Yes.
36. *Mr. Wright.*] You were asked by Mr. Lee whether there is any danger of teams bringing the wool through Warren and taking it on to Nevertire instead of trucking it at Warren? I do not think that would be done to any extent. The road has usually been bad during the time that the bulk of the traffic has been carried. I went fully into the matter and the general experience was, that about five years out of six until the latter end of the wool season the roads were bad.
37. You are aware that at Haddon Rigg Station the rate they pay is 25s. a ton? Yes? I should say that the great bulk of that traffic would be carried on the railway between Warren and Nevertire.
38. One item struck me as being very large—£144 for mails. Is not that an excessive rate for 13 miles? I think the Government are paying more than that.
39. The Government are getting mails carried for £2 a mile? In some places. There is some understanding between the Postal Department and the Commissioners.
40. Then the Commissioners are to receive £12 a mile whether they carry a ton or a pound of mail matter? Yes.
41. The revenue from the passenger traffic is put down at £400 per annum, but I suppose that Warren will not supply anything like that passenger traffic? There are three coaches running daily now between Warren and Nevertire, and every time I have been to Nevertire I have seen a good number of passengers.
42. You anticipate all the Coonamble trade coming in there? Yes.
43. You estimate to receive 40,000 bales of wool? Yes.
44. Did you ever receive anything like that quantity? We received 44,000 bales in the year that the estimate is based upon.
45. How much in the year before that? 39,000 bales.
46. You give what you think is a fair and honest estimate? Yes.
47. Have not the people of Warren been promised a railway for many years? There has been a good deal of correspondence on the subject but I do not think it has come under the notice of the Commissioners before.
48. You anticipate that it will be a paying line? Yes.
49. Because it will get all the traffic that comes to Nevertire? Yes.
50. *Mr. Trickett.*] Seeing that the railway goes through only a very small portion of private land, are you in a position to say what the owners will do in regard to it? The approach to the site proposed for a station is on land belonging to Mr. Rutledge, and the residents almost undertook to secure that and make a free gift of it.

TUESDAY, 5 MAY, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Henry Clarke, Esq.
The Hon. John Davies, C.M.G.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.

The Committee further considered the proposed railway from Nevertire to Warren.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq.

5 May, 1896.

51. *Chairman.*] You have already handed in a Departmental statement of the estimated cost of construction? Yes. I have a further note on the subject, which is as follows:—

Nevertire to Warren.

The country being flat, and the main road being from 3 to 5 chains wide, it has been possible to keep the line on the side of the road for nearly 4 miles, and it has been arranged with the Lands Department that the latter is to be altered so as to adjoin the railway from 349¼ miles to 352 miles. The line, except for about 1½ mile, is through Crown property, and it will be generally unfenced.

About 4 miles will be through country subject to flood, and in time of exceptionally high floods, some of this portion will be submerged.

The grades and curves are very easy.

The mileage cost seems at first sight high for a surface line, but considerable flood openings for the overflow of the Macquarie River and its tributaries are necessary, and the cost of junction and terminal station work, as well as superintendence, is distributed over a very short total length.

52. *Mr. Hassall.*] I presume you have made a thorough examination of the proposed route? Yes; I have not been over the ground, but I have made a careful examination of the reports and plans. I did intend to go over the ground, and on to Coonamble and Walgett, so as to examine the whole district lying between the Western line and the Namoi, but I have not yet had an opportunity of doing so.

53. Do you desire to make yourself acquainted with the country with a view to any further extension that may be contemplated towards Walgett? Yes; and I intend to combine the two objects. As mentioned in the statement the other day, this line is submitted as a separate proposal altogether. It is not submitted as part of a larger proposal. At the same time, travelling through the whole district I could examine the country through which this railway will run, and in that way I would economise time.

54. Are you aware that there has been an agitation for a number of years to obtain railway communication between Walgett and the metropolis? Yes.

55. Do you think that the point of departure from the Western line at Nevertire would meet the requirements? Yes.

56. Would it be as good a point at which to make the connection as it would be to come straight from Walgett to Narrabri? I have not considered the matter very thoroughly. It is apparent, I think, that in making a line branching off the Western railway or the Mudgee railway, a great deal more country will be opened up than by running a line from Narrabri to Walgett along the south side of the Namoi.

57. Do you know the nature of the country on the south side of the Namoi? I have only been a few miles out from Narrabri, as far as Molly station.

58. That is practically the good country? Yes.

59. Are you aware, from the reports of your officers, that the country on the south side of the Namoi is very inferior? Yes.

60. From the reports you have received, do you think that the country between Nevertire and Warren, and on to Coonamble and Walgett, would be good country to open up? Yes; I believe it would.

61. Do you expect any great increase in traffic by making the extension to Warren? I have not examined into the traffic question.

62. It has been stated that this proposal will result in increased traffic for the railway, and will practically bring traffic to the railways which they have never had before. Is it not a fact that that traffic must come to the railway at some point? Yes; I suppose this line will bring it nearer and sooner to the railway. There will be more railway carriage in consequence.

63. Is this proposal made in consequence of the difficulty of transit by team between Warren and Nevertire? Yes; the ground is very soft, and the water lies about very much.

64. With the exception of about a mile and a half, will the line run through Crown lands? Yes.

65. How is that land held for a distance of a mile and a half? Some of it is private property. Some of it is held under conditional lease. It will be seen by reference to the map that the line makes a bend through Chapman's land. The object of that is to get a good crossing over the creek. The site has been carefully located in conjunction with the road officers.

66. Has any inquiry been made as to the probable cost of the land that will have to be resumed? I have made no inquiry, but it could not amount to very much.

67. With regard to the estimated cost, are the engineering difficulties between Nevertire and Warren greater than on the line between Narrabri and Moree? Yes; there are more waterways to be provided on this line. Otherwise the character of the country is very much the same in both those districts. On this line there will be a larger extent of flooded country to traverse.

68. What description of line do you propose to make over the 4 miles of flooded country? I do not propose to deal with the exceptionally high floods. I propose to follow the surface, and to allow the high floods to come over the line. Over the creeks I propose to carry the line on timber.

69. Does the necessity for providing an outlet for flood-waters increase the cost of this line as compared with the cost of a line on country of a similar character? Yes; and I have already pointed out that the cost of the junction station arrangements will be higher in proportion on this short line than it would be on a long line.

70. Will the material for construction have to be conveyed a long distance? Yes; it will be brought along the line from Dubbo. The sleepers will be brought from Dubbo. I propose to use very little ballast. I will use the ballast which is obtainable on the Western line. I believe there is a little gravel at Warren, but not much.

H. Deane, Esq.

5 May, 1896.

71. Do you think that Warren will be practically the depôt for the traffic from Marra, Martaguy, and portion of the Castlereagh country? Yes.

72. From the calculations which have been made, do you think that the construction of this line is justified, and that there is a prospect of its paying working expenses and interest on the cost of construction? Yes.

73. As an engineer, do you think it would be advisable to make the line? Yes; it is a line that will evidently pay. It will bring in a lot of traffic, and as it will pay more than working expenses and interest, it is better to make the railway than to make a good road.

74. *Mr. Roberts.*] In the Departmental statement which you handed in, it is stated that the Minister informed a deputation that the survey was being proceeded with, and he believed that the line could be built for something under £2,000 per mile;—is it not a fact that that anticipation does not appear to have been realised? I think the Minister forgot the station arrangements and some other items, because, as a matter of fact, the cost of the running road, exclusive of the cost of supervision, only amounts to £1,891 per mile. That amount includes the item of £471 per mile for the bridges and drainage, so that you see it is really a cheap line.

75. Does not £2,692 per mile appear to be rather a high estimate for what is called a light line of railway? Not if the above is taken into consideration. The detailed estimate is as follows:—

NEVERTIRE TO WARREN.

Estimated cost of a single line of railway 12 miles 13 chains in length, 60-lb. rails.

Description.	Estimated cost.	Average per mile.
	£ s. d.	£
Earthworks	2,550 5 0	210
Box drains and timber bridges	4,222 10 0	347
Bridge over Cunningbar Creek	1,500 0 0	124
Level Crossings, cattle stops, and fencing	496 0 0	41
Permanent-way materials	8,167 10 0	872
Laying, at 1s., £1,089; ballasting, one-fourth at 4s., £1,088; sleepers, at £2s. 6d., £3,866 17s. 6d.	6,044 17 6	497
Stations—Junction, £300; passenger building "C," £275; station-masters house "B," £325; goods-shed, £350; trucking yards, £550; wool platform, £150; engine-shed, £450; carriage-shed, £100; sidings, £300; signals, £150; telegraph, £100; water supply, £200; metalling, £300; turn-table, £600; weigh-bridge, £275; 5-ton crane, £180	5,105 0 0	420
	£28,096 2 6	
Engineering and supervision, 7½ per cent.	2,107 4 3	172
	£30,203 6 9	
Contingencies, about 8½ per cent.	2,526 13 3	203
Total cost	£32,730 0 0	

21st April, 1896. Average cost per mile, £2,692.

76. The item of £2,526 for contingencies seems to be very large;—is an allowance of 8½ per cent. for that purpose the usual one? No; we usually allow 10 per cent. The contingencies can very easily run into £2,526 on a short line of this character. Being a short line, an additional expenditure at any particular point will make a large proportionate difference.

77. Is there any item here on which you think a saving could be made? No; I should not like to say that any saving could be made.

78. Do the Railway Commissioners think that it is necessary to have a station-master at Warren, a distance of only 12 miles from Nevertire, where there is a station-master already? Yes. All such items have been gone into with the Railway Commissioners, and decided after a consultation with them. They have been cut down to the very lowest, and I think they are much more likely to be increased than diminished.

79. Do you propose to build the station-master's residence of wood? Yes.

80. Is 2s. 6d. considered a reasonable price to fix for sleepers? Yes; it is a very low rate.

81. Is the road between the two places very bad at present, and is it almost impassable in wet weather? Yes.

82. Is it that fact which will cause the large expenditure of £4,222 for box-drains and timber-bridges? Yes; that item includes the crossing of a creek.

83. Where will the money be expended for a water supply? At Warren.

84. *Mr. Trickett.*] Looking at the parish map and also the general map, it appears that when you get to 348 miles from Sydney to Warren the line takes an angular dip;—will you explain why that is? The line is curved round there in order to get a good crossing over the creek. It is high ground just there—all the rest is flat country.

85. Why is there a similar dip a little further on between 349 and 352 miles? The large plan will show why that is done. It is curved round there to avoid a swamp. The line crosses below the swamp; the drainage of the swamp will cross the road and the line, and will run into the Gunningbar Creek to the east of the line.

86. Do you propose to embank that in any way? We do not propose to provide for the very highest floods. I have already stated that it has been arranged with the Lands Department that the road is to be altered so as to join the railway from 349¼ miles to 352 miles, which will not involve any compensation for land.

87. Will this line of railway, in point of construction, compare with the Parkes and Condobolin line? Very nearly, except for the water-ways.

88. Do you look upon this as a light surface line? Yes; except that on this line there are more water-ways than on the line you have mentioned, and that accounts for the extra expenditure.

89. *Mr. Davies.*] Are you aware that the Railway Commissioners make it a condition in the construction of this railway that the owners of the land are to convey what land is required for the line free of charge? Yes.

H. Deane, Esq.

5 May, 1896.

90. What do you consider is a reasonable distance between settlement and a railway? As a rule, I should not think it necessary to make a line 10 miles long, but this is a special case.
91. Is not 10 or 12 miles a very short distance to be away from a railway in the country? Yes; but still this is a special case, where the traffic comes in conveniently to Warren, and the cost of making a good road from Nevertire to Warren would be high.
92. Can you furnish any information as to the cost of the road? No; but it must be borne in mind that a road would have to be maintained, and there would be no revenue from it.
93. Even if this railway is made would it not be necessary to maintain a road for the farmers and producers? I should not think that anything particular would be done to the road—it would be left very much as it is.
94. Do you think it would pay a producer to discharge his loading simply for the purpose of conveying his produce over a short distance of 10 miles by rail? The traffic from a distance now comes in to Nevertire, instead of Warren. This line will not be made for the benefit of Warren, but for the benefit of the district. The line might not be justifiable merely to save the Warren people the trouble of conveying their goods to Nevertire, but the line will take all the goods which now come into Nevertire for a greater distance.
95. Do you know of any similar case in connection with the railway system where a short line of 10 or 12 miles has been made? I do not know that there is any other case.
96. Has it not always been regarded that 20 or 25 miles at the outside is a fair distance for a railway to run? Not exactly, I think. In pastoral country I daresay that would be the case.
97. Has it not been the case in most parts of the country? Not in agricultural districts.
98. Can you name any case where you have a short line of 12 miles to join the main line? There is the line from Goulburn to Crookwell, which is only 20 or 25 miles.
99. Has that been authorised by Parliament? No; but it has been recommended by this Committee.
100. If the Railway Commissioners and the Railway Construction Department are going to provide railway communication for all pastoral and agricultural communities within 10 miles of existing railways, will they not be making very good provision? That is not intended. I have explained that this is quite a special case. With regard to traffic considerations you are no doubt aware that I have really nothing to do with them. I have instructions to lay out a line and make the estimate of cost.
101. Did I not understand you to say that there had been a conference with the Railway Commissioners? Yes, as to station arrangements.
102. What kind of sleepers are you going to use? Round-topped sleepers.
103. Does not the cost of this railway seem to be very large for a light, cheap line? No, when all things are considered. The cost is really very low, because the cost of the running road is only £1,891 per mile, but there are heavy terminal charges.
104. Will the Railway Commissioners carry the railway and rolling stock at a cheap rate? Yes.
105. Is it proposed to fence the line? No.
106. Does the line go principally through Crown land? Yes, or along the road.
107. Do you propose, before the work is started, to visit the locality? Yes, undoubtedly.
108. *Mr. Lee.*] What portion of the line do you contemplate will be covered by flood waters? At the Warren end of the line. It will occur at the two creeks and between them.
109. Will it be the overflow of the creeks or the Macquarie River? At the further end it will be the overflow from the river backing up the water.
110. Is the site for the station, the goods sheds, and the trucking yards at Warren above flood level? Yes, I have a good site for the station.
111. Do you propose to make the line stronger at the point where the floods will occur? No; there will only be the ordinary embankments.
112. Will you use plenty of ballast where the embankment is likely to be flooded? No; I will not put any more ballast there than elsewhere. It will only be in very exceptional cases that the line will be flooded. The lower the line is the less there will be to make up. If the embankment gets washed away the rails can be packed up, and traffic carried on without interruption.
113. Is it rushing or slow water? It is chiefly slack water. It is a very slow current. The bridge over Gunningbar Creek will be the most expensive;—it will cost £1,500. All the bridges will be of timber.
114. At what rate of speed will the trains run on this line? Not more than 20 miles an hour.
115. Of what material will the station buildings and station-master's house be built? Of wood.
116. Could you not use galvanised iron with advantage? Such buildings would be very hot, and I do not know that the saving would amount to much. The cost is very small.
117. Do you propose to have an engine-shed at Warren or at the junction? Probably at Warren.
118. Will the water supply be also at that end? The water supply is only a small amount required for an addition at the junction.
119. Is this line proposed as a line from Nevertire to Warren only or as the first section of a line that may be ultimately extended? This is intended as a separate line.
120. But if the reasons offered by you are substantially sound to carry the traffic by rail for this short distance, would they not apply with greater force in favour of an extension of this line, that is to say, the roads and the camping places are bad, and if it is an advantage to teamsters to discharge their loads on the railway at Warren—would it not be a greater advantage to them to be able to discharge them further inland? Yes.
121. If at any time it is thought desirable to extend this line, is there a future for such extension? I believe there is.
122. Do you say that as a matter of railway policy the construction of this line does not bind the country to extend it to Walgett by way of Coonamble? Yes.
123. *Mr. Clarke.*] Why is the usual course to be departed from by constructing a short line of this character? The line is intended to carry a large amount of traffic which now converges into Nevertire, and thus save the construction of a costly road.
124. Is not £2,692 per mile rather high for a light railway? No; the cost of running the railway is very low considering the number of bridges and waterways we have to provide.
125. Is it probable that this line will be extended at some future time? I think it is very likely that it will be considered.

H. Deane, Esq. 5 May, 1896.

126. What kind of country is this for the construction of an ordinary road? It is very flat, and the water lies about very much.
127. Is there a road there at present? Yes, but it is a very bad one.
128. Do you think that because it is difficult to make a good road there it is necessary to make this railway? It is better to have a railway, which will pay, than to make a road, which would bring in no revenue.
129. Do you agree with Mr. Harper that this line will pay from the start? Yes, as far as I am able to judge, but I have not gone very much into the traffic question.

Hugh M'Lachlan, Esq., Secretary to the Railway Commissioners, sworn, and examined:—

H. McLachlan, Esq. 5 May, 1896.

130. *Mr. Fegan.*] Have you any statement to submit to the Committee? No; I understand the Railway Commissioners' statement was submitted to the Committee giving an estimate of the traffic.
131. Have you seen Mr. Harper's evidence? No; but he told me that he had given full particulars with regard to the traffic. What influenced the Commissioners in recommending the line is that there is a very large amount of traffic coming into Nevertire from Warren, and it is thought that the line would be a paying one from the start. The position of Warren is exceptional. The short length of road between Warren and Nevertire is a very difficult one. At Nevertire there are very few facilities for stock and teamsters, whereas at Warren there are excellent facilities.
132. Do you know whether it is the intention of the Commissioners to work this as a branch line, or in connection with the traffic of the Dubbo section? I do not know that that has been finally determined. I daresay it will be conducted as a branch line, working a train in and out. We generally find employment for men on the main line, if they are not fully engaged.
133. Do you not work branch lines sometimes with different rolling stock, and on a different gauge? No; we perhaps work a branch line with a different engine, but the trucks always go through.
134. Do you not work the Morpeth line on a different gauge, and with different trucks? It is worked with a different motor, but the same trucks run over the line.
135. I see the annual cost for this line is put down at £2,695, and the total annual revenue at £2,794, so that from the commencement you look forward to the line paying? Yes; and the present intention is that a modified local rate will be charged on this line.
136. Have you had deputations or petitions from the people of Warren in favour of this line? The Railway Commissioners have not, but I know the Public Works Department have. Petitions for a new line go to the Public Works Department, and they have been presented for years past in favour of this railway.
137. Do you entirely agree with the statement which has been submitted from the Railway Commissioners' office? Yes.
138. Have you no doubt as to the line paying? That is the opinion of the Commissioners.
139. *Mr. Hassall.*] Do you think that the difficulty in trucking and dealing with stock at Nevertire necessitates some better provision? This railway will be a convenience to the people, who will have trucking yards and loading yards at Warren. At Nevertire there is not a good water supply, and there is no good camping accommodation. At Warren there is a common, with a river running through, and there are also one or two creeks.
140. What water supply is there at Nevertire? I think there is only a tank, and in dry weather we have to bring the supply along the line.
141. By making this line to Warren you open out good country and supply good camping ground and pure water for stock? Yes; that is one of the reasons the people put forward in asking for the railway.
142. Another reason is that there is a bad road between the two places? Yes; we have been told that people there pay as much as 15s. per ton for the carriage of goods between the two towns in bad seasons.
143. Do a great many roads converge at Warren? Yes; there is a large pastoral district around it which will be tapped by the proposed railway.
144. Do the same difficulties exist on the other side of Warren as exist between Warren and Nevertire? I do not know; but I think it is the opinion of the Commissioners, that if you extend the railway to Coonamble, it would be desirable to extend it from Warren. They have already expressed that opinion.
145. What is the distance between Warren and Coonamble? About 60 or 65 miles.
146. If they extended the railway to Coonamble in the future, would they then think of extending it to Walgett? That is a matter that has not been settled; they have been considering it.
147. Would it be expedient to make an extension from Warren to Coonamble? Yes; it opens up good country.
148. Practically, Warren and not Nevertire is the converging point for the traffic from that direction? Yes; that is shown by the fact that Warren has always been a town of some importance, whereas Nevertire never has been.
149. The Railway Commissioners think that the construction of this line will be a payable undertaking? Yes.
150. Have they based their estimate of receipts on the recent estimate made by Mr. Harper? On Mr. Harper's last estimate.
151. But, according to Mr. Harper's figures, will there not be a loss? The Commissioners' figures are based on higher rates. Mr. Harper's figures were based upon the ordinary scale of charges, whereas the Commissioners' estimate is based on a modified local rate.
152. Have you had any communication with the people there with regard to the lands that would be required? No; I think the Commissioners state in their report that they understand that the land will be given free.
153. Have you trucking yards at Nevertire? Yes.
154. Does any traffic come to Nevertire from the southern side of the line? Not a great deal, to my knowledge. Three hundred and twenty-four thousand sheep were trucked at Nevertire in 1895. They came from the northern side principally.
155. This line is proposed so as to enable the people on the northern side of the railway to convey their stock and goods more expeditiously? Yes.
156. Under these circumstances the Railway Commissioners think that this proposal is justified? Yes.
157. *Mr. Roberts.*] Have the Railway Commissioners been over the proposed line of railway? Yes.
158. Are they favourable to its construction? Yes.

159.

H. McLachlan, Esq.
5 May, 1896.

159. Have they gone into the estimated cost of £2,692 per mile exclusive of land and compensation, and do they consider that a fair estimate? That is the estimate of Mr. Deane, but Mr. Deane always sees them and has some conversation with them. Mr. Deane is the responsible officer for the construction of the line.
160. Can you tell us whether it struck the Commissioners as being a rather high estimate for such a line? I think that in some places there are water-ways and other matters which make the cost heavy.
161. I notice in the Commissioners' report that they fixed the rate of interest on the capital expended at $3\frac{1}{2}$ per cent., whereas in the case of other works the rate is fixed at $3\frac{1}{4}$ per cent.;—can you explain the difference? The report of the Commissioners on this railway was made in October last. Since that report was written the rate of interest has been calculated at $3\frac{1}{4}$ per cent.
162. If the Commissioners were submitting their report to-day would the interest be reckoned at the lower rate? Yes; I think they would reckon it at $3\frac{1}{4}$ per cent.
163. What difference would it make on the return from this railway? It would only make a difference of £80 per annum.
164. After paying interest and all maintenance, locomotive and traffic expenses, there would be a clear profit of £180 a year on this line? Yes; that is the estimate.
165. Will this expected revenue be all new revenue to the Commissioners? It is all new revenue. It will be traffic which we get already, but it will be credited to the branch. The construction of the line may induce people to go in more for agriculture. It must increase the facilities given to the surrounding district.
166. *Mr. Humphery.*] Your estimate of the cost of locomotive and traffic expenses is £1,050;—is that treating the line between Nevertire and Warren as a branch line? Yes.
167. Do you consider that that is a full estimate? Yes; the Commissioners think it can be worked for that. The Commissioners have cut down the working expenses of branch lines very considerably. I have mentioned the Cobar, and other branch lines, as showing the very low cost at which they are worked.
168. Is not the Cobar line a very much longer line than this one? Yes.
169. Would it not cost considerably more, proportionately, to work a short line of 12 miles than a line of 60 or 70 miles? It would depend upon circumstances. There would be good traffic over this line. The Commissioners went into the matter carefully.
170. Do I understand that this is the view that the Commissioners take of the proposed work—that Nevertire is an unsuitable railway depôt for the traffic sent to that station? Yes.
171. That at Warren you will have a suitable railway depôt for the whole of the traffic now coming into Nevertire by way of Warren, and that, at local rates, that traffic will provide ample revenue for the cost of the traffic and for interest on the cost of construction? Yes; that is the view which the Commissioners take.
172. As a matter of fact, the unsuitableness of Nevertire is the principal reason for extending the line to Warren? Yes; and the inconvenience at present entailed upon a very large traffic by having to convey it from Warren to Nevertire by an unsuitable road.
173. There will be no loss on the line, and therefore the Commissioners favour its immediate construction? Yes.
174. *Mr. Trickett.*] Is this short extension of 12 miles unique, or is it likely to be the forerunner of other short lines? It is likely to be the forerunner of a much longer line, namely, an extension to Coonamble.
175. Do you think it may go on to Coonamble? I think it is likely to be the first section of the Coonamble line.
176. Even if it does not go on further than Warren, do you think that the construction of this line will be amply justified? Yes, on account of the convenience which it will give to the public, while it entails no loss to the State.
177. I see that in running this branch it is proposed to charge rather high special rates;—will you tell us what has been the experience of the Railway Commissioners with regard to special rates on several lines;—have those rates been maintained, or has the enthusiasm of the promoters of the lines died out after a time, and has that resulted in a reduction of rates? Those rates have been maintained in many cases where the Commissioners wanted to maintain them. Of course, from all quarters, both on the main lines and on the branch lines, persistent applications are made for reduced rates, but on many of the branch lines we have local rates, and they are apparently paid without any hardship. The Warren people have already expressed themselves in favour of the rates suggested.
178. Were not special rates charged between Nyngan and Cobar? Yes.
179. Are those rates still maintained? Yes, to a large extent. In some cases through rates have been given where it was necessary to develop traffic, such as a through rate for coke, in order to develop the mining industry.
180. It is proposed here to charge 5s. a ton for 12 miles;—is not that a very high rate? That is lower than the ordinary local rate—that is to say if it was a line terminating at Warren and running to Nevertire. If it started from Nevertire as a terminal we would charge more than 5s.
181. As compared with the heavy rates the people now pay for carriage by teams, do you think it is likely that these rates will be maintained? Yes.
182. I see that this line is mentioned as one to be constructed for a certain sum, irrespective of land-value compensation;—have you estimated whether that compensation will be nominal? The Commissioners say they think the land ought to be given free. When they were at Warren the people there told them there would be no difficulty about getting the land free. I understand there is not much land required between Warren and Nevertire, and it is not valuable if it has to be taken. It will practically not affect the cost of the line.
183. *Mr. Lee.*] With regard to the question of local rates, I presume that, as a rule, the public have little idea whether they are paying a local rate or a general rate? They generally know what rates they pay.
184. Is it your practice to issue a programme of rates? Yes; we must do so.
185. Do you regulate the rate from place to place? Yes.
186. Is there a man in the community who would know whether he was paying a general or a local rate? Yes; each consignment is accompanied by a note which shows the rate.

H. M'Lachlan, Esq.

5 May, 1896.

187. Is it not the practice of the Department to make special rates for large quantities? Yes, for truck loads.

188. And also for larger quantities? As a rule, it is for truck loads. There are a few special cases, when a special rate might be made.

189. Whatever rates you may commence with on this proposed line, will not the future rates depend entirely on the traffic? Yes, and on the conditions and circumstances. The Commissioners would not bind themselves to any fixed scale.

190. If the public largely patronise the railways, and send them goods, will not that be a reason in favour of their obtaining a reduction in rates; is not that the rule in your Department? The rule is this. If there is so much traffic upon the lines as to enable a big profit to be made the Commissioners reduce the rates generally, so that the more traffic we get the more ready the Commissioners would be to reduce the rates. The Commissioners have to consider they must pay a certain amount for interest and working expenses. If they can recover that they are quite prepared to give the public the advantage of low rates.

191. Where people have agitated for the reduction of the rates, and when a reduction has been made, no increased quantity of goods have been sent over the railway, has there not been a loss to the Department? Yes.

192. Will not the future rates at Warren depend very largely upon how the people patronise the line? Yes, upon the amount of traffic.

193. If the traffic doubles or trebles in future they will have a fair claim to the reduction of the rates? Yes.

194. At present you think the traffic is of sufficient importance to justify the construction of this proposed line at a certain cost, and if the rates proposed are charged the line will pay working expenses and interest on cost, and in addition will be a valuable cockspur to the main line? Yes; and it will be a great assistance to the people in the district.

195. Whatever charges may be deemed expedient in the first instance the charges ultimately made on the line will depend very largely upon how it is used? Yes.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

RAILWAY FROM NEVERTIRE TO WARREN.

REPORT.

THE Sectional Committee appointed on Wednesday, 6th May, 1896, to inspect, take evidence, and report with reference to the proposed Railway from Nevertire to Warren, have the honor to report to the Parliamentary Standing Committee on Public Works as follows :—

The Committee, consisting of the Hon. W. J. Trickett, M.L.C., T. H. Hassall, Esq., M.L.A., and F. A. Wright, Esq., M.L.A., left the Redfern Railway Station by the 8 p.m. train on Friday, 8th May, 1896, for Nevertire, which place they reached at 11·30 a.m. on Saturday, 9th May. After interviewing residents of that place, and arranging to be there on 12th May to take evidence, the Committee proceeded in special vehicles along the route of the proposed Railway from Nevertire to Warren. Although the weather was very dry, and the main road was then in good order, evidences were frequent to indicate what its soft and boggy character must be in wet weather, and the Committee were shown a length of road on which the Government had spent a considerable sum of money in embanking the natural road soil and adding river sand, with the result that more harm than good had evidently been done, and this portion of the road rendered absolutely impassable and useless for wheel traffic. The points of divergence of the proposed line from the main road were inspected by the Committee, who found that the deviations were necessary to facilitate the crossing of creeks, and to avoid land subject to flood.

Arrived at Warren, the Committee commenced their inquiry at the Court-house, on the afternoon of the 9th May, by taking the evidence of the Mayor, Mr. James Struthers.

On Monday, 11th May, the Committee resumed their inquiry, and examined the following witnesses :—Mr. H. W. D. Nardin, solicitor, and secretary of the Railway League; Mr. W. R. Rowles, storekeeper and selector; Mr. M. H. J. Seale, stock and station agent; Mr. D. McAlary, grazier; Mr. W. Wallace, selector; Mr. John Colleyan, an old resident; Mr. E. Utley, timber merchant; Mr. C. Hunter, station manager; Mr. C. B. Halliday, solicitor; Mr. H. A. D. O'Connor, licensed surveyor; Mr. H. W. Stanford, Crown Lands Agent and Clerk of Petty Sessions; Mr. G. Self, Post and Telegraph Master; Mr. James Kenny, Sergeant of Police; and Mr. A. B. Chadwick, timber merchant.

On Tuesday morning, at 8 o'clock the Committee left Warren for Nevertire, where they arrived at 10·15 a.m., and forthwith continued their inquiry by examining the following witnesses :—Mr. E. K. Rutledge, grazier; Mr. Geo. Reynolds, hotel-keeper; Mr. W. Butler, manager for Wright, Heaton, and Co.; Mr. R. McRae, manager for Permewan, Wright, and Co.; Mr. P. Lyons, blacksmith; and Mr. J. M. Oriel, carrier. Leaving Nevertire by train, at 3 p.m. on 12th May, the Committee arrived in Sydney at 6 a.m. on 13th May.

The

The scope of the Committee's inquiry was necessarily limited, by reason of the fact that in the discussion in the Legislative Assembly, when the matter was referred to the Parliamentary Standing Committee on Public Works, it was made clear that the proposed line from Nevertire to Warren was "submitted as a distinct extension in itself, and not as part of an extension to Coonamble and Walgett," although it was stated that, in the future, an extension in that direction may take place. This being so, the Committee confined the evidence mainly to two points, viz.:—(1) the necessity for the railway; and (2) the probability of its paying working expenses and interest on capital cost. As to the first point, the evidence was unanimous that the present road from Nevertire to Warren was very bad for traffic of all kinds, in fine weather being dry and dusty, with no suitable water for stock on the route or at the Nevertire end, and, in wet weather, being soft and almost impassable. Numerous witnesses testified that, while stock and teams could always travel to Warren from the country beyond, to get from Warren to Nevertire, along the road where the traffic converged, was at times most difficult. The tonnage rates and fares are high in proportion, from 15s. to £1 per ton being charged for the carriage of goods and 5s. per head for passengers over this short distance of 12 miles. The Committee, in their journey to and from Warren, were satisfied that the evidence given as to the bad character of the road was substantially correct, and it was apparent that owing to the absence of suitable material for road-making, the cost of forming a road capable of carrying the traffic properly would be enormous. The road is also unsuitable for travelling sheep by reason of its confined space and the existence of the Bathurst burr which grows unchecked along the whole distance. Looking, therefore, at the evidence on these points the Committee have come to the conclusion that the necessity for the railway has been established. The town of Warren is a thriving business centre, situated on the south bank of the Macquarie River, in the midst of a very fertile district. It was proved conclusively by the evidence given that for very long distances in every direction the country was of the best description, both for pastoral and agricultural purposes. The pastoral returns are equal to those from any other district in the Colony, and evidence was placed before the Committee showing the productiveness of the soil for cereals, fruit, and vegetables. The district possesses many advantages for a railway depôt, as roads from the north, north-east, and north-west converge at or near the town. As a site for trucking stock, Warren could hardly be excelled. There is an abundant water supply from the Macquarie River, and also the Burlong Creek, into which a permanent supply will be conveyed from the Macquarie as soon as the works in connection with the weir on that river are completed; and in addition, there is a very large area of commonage around the town, into which travelling stock routes lead from all directions. The value of the adjacent country is demonstrated by the fact that when land has been offered for settlement it was at once selected. The Committee were assured that if the whole of the leasehold areas were thrown open, the land would be taken up almost immediately, and there seems no doubt that, as the surrounding country gradually becomes available for closer settlement, it will be eagerly competed for. With regard to Nevertire as a stock depôt, complaints were made by stock-owners of the disadvantages of trucking stock at that place, not only by reason of the bad approach, but also from the fact that when the stock arrived there they refused to drink the water in the Government tank, and there is no other supply available, the Government having recently abandoned the attempt to obtain an artesian supply near the town, where the boring operations had extended to a depth of 2,500 feet.

Regarding the traffic likely to be carried on the railway, evidence was forthcoming that, at the outset, the Departmental estimate of revenue would, in all probability, be realised, and all the witnesses testified that they would be willing to pay the special rates indicated by the railway authorities. One of the principal witnesses at Warren, Mr. Nardin, stated from apparently reliable data, although on a slightly different basis to that submitted by the Department, that the annual revenue would amount to about £3,000. The increased settlement that would inevitably follow the construction of the line would, of course, add to the railway revenue, which would be materially augmented as cultivation was more largely carried on.

With

With two exceptions, all the witnesses examined by the Committee testified in favour of the proposal, and the dissentients gave reasons for their opposition which were not of a character to which the Committee could attach much weight.

The question of compensation for land is only in a very slight degree involved in this inquiry, as but a small portion of private land will be traversed by the line; one owner has already been arranged with, and the Mayor of Warren gave a distinct promise to procure the necessary compensation for the remaining private land, in which connection the Committee recommend that the Government should first resume the land at the Warren end of the line, and then obtain the arbitration value from the residents.

Although the construction by the Government of so short a railway as 12 miles 13 chains is almost unique in the history of our railway system, still the case seems to be an exceptional one, and the Committee, therefore, recommend the construction of the line as proposed.

The country being level and presenting few engineering difficulties is particularly suitable for the construction of a light surface railway, such as that contemplated, the cost of which, the Committee think, should be kept well within the sum estimated by the Department of Public Works.

W. J. TRICKETT,
Chairman.

14th May, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

RAILWAY FROM NEVERTIRE TO WARREN.

[TAKEN BEFORE THE SECTIONAL COMMITTEE.]

SATURDAY, 9 *MAY*, 1896.

[*The Sectional Committee met at the Court-house, Warren, at* 3·30 *p.m.*]

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

THOMAS HENRY HASSALL, Esq. | FRANCIS AUGUSTUS WRIGHT, Esq.

The Sectional Committee proceeded to consider the proposed Railway from Nevertire to Warren.

Mr. James Struthers, Mayor of Warren, sworn, and examined:—

Mr. J. Struthers. 9 May, 1896.

To the Chairman: I am the Mayor of Warren, and have occupied that position for about twelve months. The town has been incorporated a little over twelve months. Its present population is a little over 1,000, and the number of ratepayers last year was about 230, the municipal revenue being about £350. The population of the police district is about 3,000. It extends from Nevertire on the one side to Grahway on the Lower Macquarie, to Bullagreen on the north, and to Enaweena on the west, and to the boundary between Ellengerah and Mullah on the east. The district extends 12 miles in the direction of Nevertire, 50 miles on the lower side down the river, 30 miles towards Bullagreen, and about 20 miles up the river. I have resided in this district for six years, and have been in business as a storekeeper during all that time. In regard to the necessity for the proposed railway from Nevertire to Warren, in the first place, the very bad state of the road in wet weather causes a serious depreciation in the value of the stock travelling on the road to be trucked at Nevertire. The number of fat stock travelling along the road is very large, amounting to something like 200,000 sheep in one year, and varying according to the nature of the season. By travelling this road fat stock depreciate in value to the extent of 1s. a head, owing to the bad state of the road, both as regards mud and the Bathurst burr. Some drovers have taken a whole day to travel a mile along the road in wet weather, and in dry times there is no feed or water. If sheep could be trucked at Warren they would reach Sydney two days earlier than at present, even in favourable weather, and this would make a considerable difference in the value of the sheep. There is a permanent water supply at Warren, and a large common where the sheep could obtain grass, so that they would be put into the trucks in good condition, which is not the case at present. A great number of cattle and horses travel along the road to Nevertire, and in dry seasons suffer considerably from the want of water at Nevertire. The Roads Department has spent nearly £1,000 in endeavouring to form a portion of the road by putting sand upon it, but the attempt to improve the road in this way has been a failure. At one time I counted no fewer than thirteen teams bogged on the portion of the road upon which the Government had spent nearly £1,000. It requires 2 or 3 inches of rain to make the road really bad. If 2 inches of rain were to fall now, 2 inches next week, and another 2 inches the following week, the road would be simply impassable. The part of the road to which I referred just now is not at the present time used at all by vehicles; they prefer to take the side of the road. Another reason why a railway is necessary is that should we have a wet season at the end of the year, between August and February, such as we had in 1891 or 1892, the settlers here would suffer great loss, owing to delay in the transit of their wool from the stations to the market. If a team takes three weeks to accomplish a journey which it ought to accomplish in three days, it follows that it would take the team the same time to get back to load again; and I venture to say that if we had a really wet season here, and a good wool clip, the clip of one season would not be sent to Sydney before the beginning of the following shearing, which, of course, would mean considerable loss to the woolgrowers of the district. I have had goods lying at Nevertire for between two and three months, not being able to obtain teams to bring them to Warren, and I am only one amongst many others. At one time there was only one bag of flour in the town, and we had considerable difficulty in getting to the other side of Sandy Creek. That was in the year 1890. During the last three years the seasons have been pretty dry, and we have not suffered as much inconvenience from the bad state of the roads as previously. The greater part of the stock trucked at the railway station at Nevertire travel through Warren. I should say over 90 per cent. With regard to water for the use of travelling stock, at Nevertire there is only a Government tank, the water in which the stock will not drink except in the greatest extremities, while at Warren we have a permanent water supply from the Macquarie River. A railway is also desirable in view of the general development of the district. We shall be brought very much nearer to a market. If we grow wheat now it costs about 4½d. a bushel to deliver it on the railway at Nevertire, to come into competition with other parts of the colony. We have grown wheat here, and with very great success, but the cost of carriage has been so heavy that we have not been able to compete with other parts of the colony. Last year wheat was at a very low price.

Mr. J. Struthers. 9 May, 1896.

I bought fine wheat here for 1s. 10d. a bushel after it had been carted into Warren. At Bullagreen crops of wheat have been grown which have yielded 30 bushels to the acre. If a railway is constructed to Warren the settlers would be better able to get their produce to market, while they will obtain their stores from Sydney at a cheaper price. The cost of carriage from Nevertire to Warren by rail would be less than the cost by team. At present I pay 15s. per ton for carriage between Warren and Nevertire, and I used to pay £1 per ton. In bad weather I have paid as much as £2 per ton, and could not even get the goods carried for that on some occasions. The usual rate for goods and merchandise is 15s., and I believe some people pay £1 per ton. The charge of 2s. 6d. a ton for wool from Warren to Nevertire, which the Railway Commissioners say they are prepared to impose, would be very much less than a carrier would charge for the same distance. The road from Warren to Nevertire is worse than the other roads which the teams traverse in taking goods to Nevertire. The traffic comes to Warren from different directions, and then it is taken along the one road to Nevertire. The road to Nevertire has to bear the whole of the traffic supplied by all the different roads converging at Warren. On the latter roads teamsters can avoid bad places, as they have ample room, but that is not the case along the road to Nevertire, where the traffic is congested. It has been said that when once a team is loaded it does not matter much whether it carries the goods an extra 10 or 15 miles; but I do not agree with that argument in the present case, because if a railway were constructed to Warren a teamster would save the two days that would otherwise be occupied on the journey to Nevertire. The rates proposed to be charged by the Railway authorities, namely, 4s. per ton for ordinary goods, 2s. 6d. a ton for wool, and 2s. a truck for live stock, are fair and reasonable, particularly when compared with the present charges. At these rates I think the railway would be used exclusively. The tonnage conveyed along the road from Nevertire to Warren on my account is about 1,000 tons a year. These goods represent a total amount paid for carriage of £750. There are five general storekeepers in Warren, as well as many retail shops, and there are seven hotels. In addition to the goods imported into the place by all these business people, a number of the station-owners carry goods to their own places. Large quantities of goods come through Nevertire from Sydney, and are taken as far down the country as the Barwon, and even to Coonamble. Having been here for six years in a large way of business, I consider that this is a progressive district. Its population has doubled in the last six years. There are large areas of land not yet thrown open, and if better means of communication were given I am convinced that the district would progress even at a greater rate than it has done in the past. Agriculture has increased since I have been in the district. There was no agriculture at all when I came here. The people tried agriculture and found that it would succeed, but they had to abandon farming because they could not get a market. Wheat-growing has been successful in the district. I could not state exactly the average yield to the acre, but I know that one man grew a crop of 30 bushels to the acre, and another a crop of 25 bushels to the acre. The district has a favourable rainfall, the average being about 18 or 19 inches. This part of the country does not suffer from floods. When heavy rains occur, the land being so level, there is no great rush of water. The water gradually subsides, and does more good than harm. If three-fourths of the proposed railway were constructed as a surface line, with little or no ballast, the ground being slightly banked up, I do not think the spread of water which occurs in heavy rainfall would be at all likely to injure an embankment of the kind, if it were protected by box-drains and culverts at frequent intervals. There has not been a severe drought in the district during the six years that I have been here. We have had two seasons that might be called fairly dry, but there has only been one season in the six years during which the farmers would not be able to grow wheat, and that was the last season. Taking it all round, I should say that the district is fairly favourable for pastoral pursuits. With regard to the capacity of the land for pastoral purposes, the large station-holdings generally carry one sheep to the acre, or perhaps four sheep to 5 acres. The smaller holders may carry two sheep to an acre. The larger pastoralists generally keep in view the possibility of a dry time, and keep grass in reserve, while the smaller men are anxious to make all they can out of the stock they have, because the stock market is always uncertain, and a man with only about 2,000 sheep has some difficulty to make any more than a living. Many of the large holders grow wheaten hay and lucerne to provide for dry seasons. Along the banks of the river, on the big stations, any quantity of lucerne is grown, and also wheaten hay, but they make provision principally by under-stocking. If a railway were constructed to Warren I should say that the number of small holders would increase. If a number of them have been able to make a living with the present disadvantages as regards means of communication, it seems reasonable to suppose that settlement would increase if better access were given to a central market. Having a pretty good business knowledge of Warren, I consider that the business people generally are financially sound, and able to pay their way. I do not find many people giving up business and clearing out of the place. I consider that the railway is necessary, and that if constructed it would be a paying concern.

To Mr. Wright: I have not specially considered the question of extending the railway beyond Warren. For the present I should be perfectly satisfied to get a railway to this place. The large settlement that has taken place in the district, and to which I have referred, has been in the nature of selections. Nearly all the available land has been taken up in selections. There is a large quantity of land not selected, but it is not yet open for selection. The special areas that have been offered have nearly all been taken up at enormous prices. There is a number of leasehold areas which have not yet been thrown open, and a number of reserves still existing. A lot of special-area land has been taken up at about £4 an acre, but I cannot see how people can possibly live upon it after paying that price. Dairying is carried on in the district only to a small extent, and at the present time we do not supply our own wants in this respect, and have to import butter. I said, in answer to Mr. Trickett, that in consequence of the difficulty of traffic I had been able to buy wheat here at 1s. 10d. a bushel. It is quite true that wheat was sold at the same rate at Narromine and lower down the line; but I would point out that if the wheat had been sent from Warren to Nevertire the cost of taking it there would have been 4½d. a bushel, which would bring the price down to 1s. 5½d. at Nevertire. When I paid £2 a ton for the carriage of goods from Nevertire it was during a wet season. The fare for passengers on the coach between Nevertire and Warren is 5s. Six coaches are running on the line. The whole of the traffic from the Lower Castlereagh and Mara Creek goes through Warren. There are two coaches running three days a week from Coonamble, and they always have a fair load—at any rate the owners are able to make a living. At a charge of 2s. per head on the railway I think the number of passengers would be sufficient to represent a revenue of £400 per annum, estimated by the Railway Commissioners from this source. In fact, I believe the revenue would

Mr. J. Struthers. 9 May, 1896.

would be greater than that. The estimate of 2,500 tons of goods that would be carried on the railway per annum would, I think, be realised, and the estimate of 40,000 bales of wool I consider low, as 57,000 bales of wool have been sent from the Nevertire railway station in one year. The estimate of the Railway Commissioners, that 2,500 trucks of live stock per annum would be carried on the railway I should say would be more than borne out. If the railway were constructed to Warren there would be a larger amount of settlement in the district, and a greater area of land under wheat. At present the charge for carrying wheat to Sydney from Nevertire by rail is about 12s. 6d. per ton. A railway to Warren would not only be a benefit to the business people in the town, but would also largely tend to increase production in the district. I could not state exactly the extent of land, apart from special areas, available for selection within 20 miles of Warren, but I think there is sufficient to enable 1,000 more people to be settled on the soil. Land close to Warren has been offered in special areas at £4 per acre, but I think it would be possible to buy every selection in the district, including improvements, at a less price than that. In my opinion, as a business man, the high prices which the Crown are asking for land are detrimental to settlement. If they were prepared to sell the land at reasonable prices it would be readily taken up.

To Mr. Hassall: The road to Nevertire is in wet seasons practically impassable, and in dry weather, though there is some water at Sandy Creek, there is none available at Nevertire, for stock will not drink the water in the Government tank. In a dry season you cannot depend upon getting water at Sandy Creek. The difficulty of transit between Nevertire and Warren is much increased by the fact that the road for nearly the whole distance is fenced on both sides; only one portion is unfenced, but that is liable to be fenced at any time by the lessee, who has threatened several times to do so. If it were so fenced it would be confined for the whole distance to a width of 4 chains. The land in this district is suitable for closer settlement than at present exists. Along the river the land is considered to be second to none in quality. Agriculture has been successfully carried on at Narromine, as the members of the Committee might have seen as they came along the railway line. The land in the district of Warren is of similar quality, and the rainfall quite as good. The people here dread the road between Warren and Nevertire, because in wet weather they practically get bogged, and in dry weather the sheep are injured by having to pass through the crop of burrs along the road. I consider that all the stock that now travel from here to Nevertire for shipment by rail would be trucked at Warren if facilities were provided. We have better facilities here both in regard to the commonage available and the water supply. There is better provision by which they could obtain both good feed and pure water before starting on a long railway journey. All the fat stock from the district travelling by the roads converging at Warren are trucked at Nevertire. An odd lot of sheep may, perhaps, be sent to Trangie in order to avoid the road between Warren and Nevertire. It is the general opinion of stock owners that it would save their stock from being knocked about if they could be trucked at Warren, instead of travelling on the road to Nevertire. With regard to the country to be served by the proposed railway, if it were constructed to Warren, and for some considerable time did not go any further, it would certainly in wet seasons command all the traffic from Mara Creek. At present the traffic to Nevertire comes from country as far as 50 or 60 miles down the river. If the railway were constructed to Warren it would command all the traffic from the Marthaguy and from the Meri Meri. With regard to the Castlereagh, the bulk of the Coonamble traffic comes through here now, and if the railway were extended to Warren we should get the whole of it. We get the traffic from Walgett, and down the Barwon. All the wool from that country as far as Brewin and the return goods pass through Warren. The traffic to the east and north of Warren would not gravitate to the railway higher up, but would go through Warren, which is practically the converging point for the whole of these river districts, the traffic from which naturally comes here to get to the nearest point on the railway. The country in the districts just mentioned is good grazing country, and a great portion is good agricultural country. At present it is principally under pastoral occupation, the stock carried being principally sheep, though there are some cattle. There are a number of large holdings, but there are also a great many small holdings—selections which have come into existence within the last eight or nine years. When the pastoral leases fall in, I anticipate that the settlement in these localities will be nearly doubled. The settlers in the district I believe are doing very well indeed. There is very little private land along the proposed railway, and though I cannot say that this will be given free of cost, I am in a position to state that if the Government should take the land over at a fair valuation, the people in the district will willingly subscribe towards its payment. When droughts occur in this district forage has to be imported at a pretty heavy cost. The railway people meet us very fairly with regard to the rates charged, but the cost of carriage from Nevertire is very expensive. Any quantity of timber for railway purposes could be obtained along the banks of the Macquarie. All the sleepers for the Cobar line were procured about 4 miles up the river. It consisted of red gum, of which there is still a large quantity on the other side of the river. A bridge was commenced so that the timber might be taken across the river to the saw mills, but a flood occurred, which stopped the operations, and the timber had to be obtained elsewhere. The red gum which it was intended to remove is still there. There is plenty of pine, suitable for station buildings, at a distance from Warren of from 8 to 12 miles. In regard to timber suitable for piles and waterways, it would be necessary, perhaps, to go 30 miles for ironbark, but plenty of suitable timber, such as gum, could be obtained in the vicinity of Warren. Piles could be obtained in lengths of from 18 to 20 feet. In regard to ballast, gravel has recently been found close to the town, near the site of the proposed railway station, where a gravel-pit has been dug. The gravel is about 8 or 10 feet from the surface. I am not aware of any reasonable opposition to the proposed line. We have had many public meetings in favour of the railway, but none against it, nor has there been any counter-petition. I think there would be sufficient traffic between Nevertire and Warren to justify the running of a daily train, which would be a mixed train. In the wool season the traffic would be exceptionally heavy, but at other times of the year there would not be so much. In the event of the proposed railway not being constructed, the residents of Warren would be justified in asking for the construction of a road, which would cost nearly as much as a railway, and give no revenue in return. Failing a railway, Warren would be entitled to a macadamised road, and a stock route of 4 chains, kept clear of burrs. There is no metal available for the formation of a macadamised road. I do not think that the reason why small holders, as a rule, run more stock than large holders, is because they utilise their land to better advantage by subdividing it into paddocks, thus giving the land a spell now and again. The reason why small holders carry so many sheep is that if a man has only 2,560 acres of pastoral land, he runs upon it more than one sheep to the acre, and if a drought

Mr. J. Struthers. 9 May, 1896.

drought comes he has a risk of losing the whole of his stock, so that to a certain extent he "chances" it. If a railway were constructed to Warren, I believe several large industries would be established, including a flour-mill, freezing works, soap works and other industries. I believe this would occur before the line had been open twelve months. The want of direct railway communication prevents the people of this district from establishing industries which, while profitable to themselves, would employ a large number of men.

To the Chairman: In regard to the resumption of private land, I have made inquiries, and I find that there is only one owner who will not consent to give his land free—I refer to Mr. Ryrie, who owns land adjacent to the town, through which the railway would pass for a short distance. It is possible that he may yet consent to give the land free. But should the construction of the railway be recommended, the people of the district will willingly subscribe towards the purchase, at a fair rate, of any private land that may be required. The proposed site for the railway station is on land belonging to the Government, and not to Mr. Rutledge, as stated by Mr. Harper of the Railway Department. As mayor of the town, I am in a position to state that where a private owner will not give the land required for the railway free of cost, the residents of Warren will be prepared to put their hands in their pockets, and pay for it, whatever may be the arbitrated value.

MONDAY, 11 *MAY*, 1896.

[*The Sectional Committee met at the Court-house, Warren, at* 10 *a.m.*]

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

THOMAS HENRY HASSALL, Esq. | FRANCIS AUGUSTUS WRIGHT, Esq.

The Sectional Committee further considered the proposed Railway from Nevertire to Warren.

Mr. Herbert William Dundas Nardin, Solicitor, Warren, sworn, and examined:—

Mr. H. W. D. Nardin. 11 May, 1896.

To the Chairman: I am a solicitor practising at Warren, where I have resided for the last two years, and I occupy the position of secretary to the Warren Railway Extension League. Before coming to reside at Warren, I was acquainted with the district for about six years.

To Mr. Wright: In regard to the traffic passing through the district of Warren, the report of the Railway Commissioners for the year ending 30th June, 1894, shows that 40,890 bales of wool were received at Nevertire, while in the year 1893 the number of bales received was 29,583, showing a large increase. Together with Mr. Harper, of the Railway Department, I went through the list of stations and holdings from which the wool was received at Nevertire, and found that fully 85 per cent. came through Warren. For the same period the goods sent by the railway from Nevertire outwards amounted to 8,478 tons, including wool, and the goods received amounted to 2,803 tons, making a total inwards and outwards of 12,281 tons. In regard to the goods other than wool, I should say that the proportion sent from and received at Warren was about 85 per cent. I believe that fully four-fifths of the total tonnage inwards and outwards at Nevertire passed through the town of Warren. The following is a list of stations and holdings from which wool is sent to the railway at Nevertire, and which receive return stores, &c., and I believe it to be correct:—

Warren Downs	Merimbah	Bundilla	Gradgery
Warrana	Back Creek	Woodlands	Major
Bimble	Quilbone	Woodside	Drungalear
Bullarora	Pier Pier	Billaroy	Marebone
Wingadee	Warrie	Carwell	Umangla
Polly Brewan	Bourbah	Stanley	Jedburgh
Terrobile	Myall Park	Regensbah	Hatton
Terembone	Avoca	Benah	Bullagreen
Urawilkie	Myall (Bullagreen)	Mount Harris	Gillendoon
Tooloon	Collie	Kiameron	Overflow
Nebea	Dragon Cowell	Grahway	Geanmoney
Neinby	Merrigal	Buttabone	Belagula
Haddon Rig (133,000 sheep, 1894)	Eurobla	Raby	Baangal
Weemabung	Meryon	Mumblebone	Coonimbia
Emby	Oak Vale	Reddanville	Quabathoo
Ellerslie	Wonbobbie	Wanbandry	Mungragambone
Eversleigh	Emu Park	Millawa Park	Wallangambone
Noonbah	Macville	Combogolong (25 miles from Walgett)	Gum Holes
Quambone	Pigeonbah	Merri Merri	Wangawalli (30 miles from Walgett)
Mayfield	Tenandra		

The stations named certainly send their wool through Warren, and there are no doubt others that I have omitted from the list. I cannot give the aggregate clip of these stations and holdings, but it can be approximately ascertained by the return of the total amount of wool received at Nevertire. I believe the residents of Warren would be quite prepared to pay 5s. a ton for goods conveyed by rail to Nevertire. When the Railway Commissioners were in the district, they expressed themselves as quite willing to do so. They would rather pay 5s. a ton by rail than 15s. a ton by road. In regard to the passenger traffic, according to the railway returns for the year 1893-4, 4,305 passengers were booked at Nevertire, and of these I consider that three-fourths went through Warren. I have put down the number of passengers on the railway from Warren at 3,000. On the main Coonamble Road there are two separate lines of coaches running three times a week, in addition to the Quambone coaches. I have known three or four coaches, including special ones, to run on the one day from here to Coonamble. People returning to their homes at or near Coonamble in small parties frequently engage a special coach. They prefer to hire vehicles rather than go to the expense of keeping their own horses waiting here for them, especially in the dry times. Special coaches are also used by commercial travellers journeying between Warren and Coonamble, who require special accommodation for their samples. With regard to the stock traffic by railway, the official returns for the year 1894-5 show that there were sent from Nevertire by rail 160 horses, 6,588 cattle, and 324,215 sheep. As 85 per cent. of the wool came through Warren, it is only fair to put down the stock passing through this town at the same proportion. The figures with regard to the stock traffic were not prepared

in

Mr. H. W. D. Nardin. 11 May, 1896.

in conjunction with Mr. Harper, who puts down the number of trucks at 2,500. The number of trucks estimated by me is 2,925, which at 3s. makes a total revenue of £438 15s. The following is my estimate of the probable revenue from the railway:—

	£	s.	d.	£	s.	d.
3,000 passengers each way at 4s. (*i.e.*, return fares) ...	600	0	0			
2,700 sheep trucks at 3s.	405	0	0			
225 cattle trucks at 3s.	33	15	0			
5,000 tons of wool at 3s. 9d. per ton	937	10	0			
3,800 tons of goods at 5s.	950	0	0			
				2,926	5	0
Mails				144	0	0
				£3,070	5	0

The cost of the mail service at present is £59 a year. The figures I have given are prepared from the best information obtainable, and I believe them to be correct. The district of Warren is very well watered. The Macquarie River runs through the town, and in the Burlong Creek there is a permanent supply of water, which will be supplemented when a channel is cut into the creek in the Macquarie River at the point where a weir has been constructed. There is also a supply of water in the Ewenmar Creek about 2½ miles on the north-east side of the Macquarie River. The district is well supplied with travelling-stock routes, and there is seldom any complaint in this respect, There are several water and camping reserves. A second weir has been constructed 30 miles up the Macquarie River, where it is intended to send an extra supply of water down the Ewenmar creek. I have prepared a map showing the extent of country to be served by the proposed railway extension. Wool would come in from stations about 100 miles to the north and north-west. I consider that the construction of a railway would induce settlement in the district, and lead to cultivation. Even in my own time there has been an increase of cultivation. Although the railway would not in my opinion be of very much value to those cultivating land as affording a market in the direction of Sydney, yet the settlers would have supplies brought from Sydney to satisfy their wants, although they might send their wheat out back. I do not see any reason why the people of this district should not grow wheat, and supply flour to the back country. If the railway were constructed it is probable that a flour mill would be erected in the town, and several other industries started, such as freezing works. We could start freezing works here just as they have done at Nyngan and Dubbo. A lot of the stock treated at Dubbo comes from the Warren district. I am aware that there is already a freezing depôt at Dubbo and another at Nyngan, and that it is very expensive to construct these works, but at the same time it is in the interests of the pastoralists to have freezing works established at the nearest points. I think a boiling-down establishment could be started in conjunction with the freezing works. Closer settlement, and a larger cultivation of cereals, would result from the construction of the railway. As regards the character of the land, the district is considered one of the best in the colony. The rates at present charged for carriage between Warren and Nevertire, namely 15s. a ton for goods, and 5s. for passengers, is exceptionally high. From Gulgong to Mudgee, a distance of 20 miles, the charge for passengers is 3s. return, as against 7s. 6d. return between Warren and Nevertire, a distance of 12½ miles. Between Mudgee and Cassilis, a distance of 60 miles, the return fare for passengers is 8s. The reason of this difference must be that the roads in the other districts referred to are in better condition. The roads are not composed of the black soil which is found here, and horse feed is not so dear. In a dry season, when the roads are in good order, feed in this district is very scarce, and it costs the carriers a good deal to keep their horses, while in the wet season they have to use a great many horses, and the difficulty of the work knocks them about a good deal. I have known people to give £1 to be conveyed from Warren to Nevertire in a really wet time. The late Police Magistrate at Dubbo told me that it took him twelve hours to go from Warren to Nevertire on one occasion. Chaff is produced in this district. We cannot supply our own wants in a bad year, but can do so in a good season when, owing to the plentiful supply of grass, much chaff would not be required. Considering the large number of teams employed to and from Nevertire, the consumption of chaff must be very great, except of course in a really good season. The district could grow enough chaff and corn to supply the wants of the carriers and coach proprietors, but I cannot say that it does so now, though I know that a great deal of chaff is grown. Mr. Seale, over the river, grew a good deal of chaff last year. The butter consumed in the district comes from the south coast to a great extent. Sufficient milk is produced locally. In summer the climate would be too hot for dairying.

To the Chairman: I should like to give information as to the value of land about the town of Warren. An allotment at the lower end of Dubbo-street was sold by F. C. Thompson & Co. at the end of last year, and realised £87 5s., the purchaser being Dr. J. H. Wilson. Three years ago this block was purchased at the Government sale for £40. The area is about half an acre. Nearly all the special-area land open for selection in the vicinity of Warren has been taken up. The upset price varied from £2 10s. to £4 an acre. In the Act of 1895 there was a section allowing the holders to apply for reappraisement within three months from the 1st June. Although it was considered that the prices paid for these lands were high, very few of the purchasers applied for reappraisement. At a Government land sale on the 29th January, 1896, an allotment, offered at an upset price of £40, realised £80. In regard to the return of stock trucked at Nevertire, of which 85 per cent. passed through Warren, the figures for the year 1894–5 exceed those I have quoted for the year 1893–4. Last year the number of bales of wool was 45,000, in the previous year 40,000, and the year before 29,000.

Mr. William Robert Rowles, Storekeeper, Warren, sworn, and examined:—

Mr. W. R. Rowles. 11 May, 1896.

To the Chairman: I am a storekeeper residing in the town of Warren, and also a selector, holding a special area. I have been in business in Warren for about seven years, though I only came to live at Warren three years ago. I have held the special area for a little over three years. Its area is 111 acres, and I paid £3 5s. an acre for it. It is 2½ miles from the town, and within the municipality. I purchased it at a sheriff's sale, and it was then in a virgin state. Forty acres have since been cleared. It must have cost from £3 to £4 an acre to clear the land ready for the plough. At present I have 15 acres of orchard, in which are growing about 600 summer fruit trees, about 150 citrus trees, and about 500 vines. I have also 500 or 600 rooted cuttings, all ready to be put out this coming year, and for which the land

is

Mr. W. R. Rowles. 11 May, 1896.

is already cleared. Within the area of the orchard I am also growing experimental crops, consisting of Kaffir corn, better known as Darrah, two or three varieties of sorghum, and some broom corn. I have had also a little wheat, oats, barley, potatoes, and pumpkins. In another paddock, which I have cleared ready for the plough, I have more sorghum, maize, and Darrah, and I have also experimented with Johnstone grass, or evergreen millet, which I think is a very suitable fodder for this district. I have had two cuttings of this since last September, and have placed 3 acres more under cultivation. I have also 20 acres ready for the plough. We started ploughing with the intention of putting in cereal crops, but the ground being dry for the want of rain, we had to give the work up for this season, and that ground is at present uncultivated. I submitted three samples of the soil to the Department of Agriculture, of which they analysed two. They state that it is "well adapted for fruit of all kinds, and grapes and oranges especially." And they say further that "in all respects it is an excellent soil, and should grow anything suitable to the climate of the district." I produce for the inspection of the Committee specimens of oranges and lemons grown in my orchard, the product of the first trees planted. I had a good show of summer fruits, particularly Japanese plums, which are suitable for a dry climate. I may mention that I planted some Kaffir corn in September, and I cut it down for stock in January. We had good rains in February, and the sample produced shows the second growth, which it will be seen is of exceptional size, especially as we have had comparatively little rain since February. It is an admirable variety of fodder plant in an unusually dry district. It has made about 5 feet of growth since it was cut down in January, and it was then 6 feet high. I produce a specimen of sorghum which was also planted in September, and which represents a fair average growth; its height is from 6 to 7 feet. Also a sample of broom corn planted in November. It will show that the soil is of a good quality, and very productive, even under ordinary conditions. In regard to vegetables, we need not depend upon our celestial friends for pumpkins, as the members of the Committee will see from the two varieties I now produce. I do not irrigate my land, but adopt a system of thorough cultivation—continually working the soil—which, I think, is of more importance than irrigation. In regard to the growth of cereals, I had little less than an acre growing oats, wheat, and barley, which I cut for feed. Agriculture is of comparatively recent date in this district, but I know of two or three farmers who have been fairly successful with their crops. Two farmers here were able to supply chaff for all the horses that were employed during the construction of the weir, and there were over 150. A farmer named Boucher, living 8 miles down the river, has about 30 acres under wheat, and his crop realised from 25 to 30 bushels to the acre, which would be only a fair average crop. Most of the chaff consumed by the local teamsters is not grown and cut in the district, but is obtained from Nevertire, to which place it comes by rail. The teamsters, when they go to Nevertire, generally buy from the commission agents there, for whom they carry. I am a storekeeper at Warren, but not in a large way. Financially, I consider the district exceptionally sound. I have lived in Tamworth, Singleton, Hay, and Dubbo, and I think Warren, in a financial sense, compares favourably with any of those towns. I believe that if a railway came to Warren it would give a great impetus to agriculture. So far most of the agriculture has been carried on by the special-area holders on land comparatively close to the town. But if these men simply depended on their crops I do not see how they would be able to make a living out of the very small areas they hold, and pay three or four shillings per acre rental. At present the profit from my land is prospective. You cannot, of course, get any return from fruit-trees for the first year or so. I fully anticipate that the speculation will be a good one. Nothing had been done with the land before I purchased it. The holders of special areas in the vicinity of Warren are not, as a rule, making a living out of their special areas only. Most of them depend on something else as well. There are not many abandoned selections in the district, and people are not leaving their selections. The percentage of those who have got into difficulties and have been sold out is very small. I pay 15s. a ton for the carriage of goods from Nevertire. This is not a high rate considering the state of the road, but it is high in comparison with the rates in districts where the roads are good. On the road between Nevertire and Warren I have seen twenty-eight bullocks yoked to a waggon, which they have been unable to move. On one occasion it took me seven hours to go from Warren to Nevertire in the coach. We had three changes of horses. It would be a great boon to the people here if they could get passengers and goods carried at reduced rates. And if a railway were constructed, little or no traffic would be taken by coaches or teams between Nevertire and Warren.

Mr. Michael Henry Seale, Stock and Station Agent, Warren, sworn, and examined:—

Mr. M. H. Seale. 11 May, 1896.

To Mr. Hassall: I have lived in the district about five years. Before coming here I resided on the Lachlan below Forbes, and for nearly ten years I lived out on the Darling, about half-way between Wilcannia and Bourke. I have been in business at Warren for about five years, and am a member of the firm of Joseph Leeds & Co., of Sydney. We do a large amount of business in selling store and fat stock at Warren, and also attending to and sending fat stock from Nevertire to Sydney by train. In the year 1894 nearly 30,000 fat sheep must have passed through Warren to be trucked at Nevertire, and between 2,000 and 3,000 fat cattle. That is in connection with my own firm. We do not use the train for store sheep. In the course of twelve months our sales of store sheep would amount to from 40,000 to 50,000, and about 5,000 head of cattle. The number of sheep passing through Warren to go by train in the course of twelve months, is between 250,000 and 300,000, and the number of cattle, of which I have no record, is about from 15,000 to 20,000. The whole of the stock coming from this direction to be trucked at Nevertire has to pass through the lane that has been referred to. There is no other way to get to Nevertire except across the Burlong Bridge near Warren. The country round this centre is pastoral country. I should call it first-class pastoral country. The country beyond Warren north and north-west would compare with the country you saw yesterday when you visited Gunningbar. It is, perhaps, not quite so open as that country, but very nearly the same. There are portions just as open. This good country extends right through to Walgett on the north, right through to the Barwon on the north-west, and to Coonamble and further on to the north-east. Towards the east it is very good for 40 miles. It practically embraces the whole of the country between the Castlereagh and the Macquarie, and extends lower down on the west side of the Macquarie and down the Mara Creek. The whole of this country I should describe as first-class pastoral country. It carries sheep principally. There are not many cattle stations now, but the Mole country is stocked with cattle. Every yard of the country I have described is occupied.

Mr. M. H. Seale. 11 May, 1896.

occupied. No portions of the pastoral leases have been thrown up. It contains no worthless country at all. Some of it is scrub, but that is good country if ringbarked. There are a great number of small holdings, and also some large ones. There are a large number of selectors scattered right through that country to the Barwon. Practically they occupy the whole of the resumed areas of the various runs. I do not think there is any of the resumed area left. I think these men are all in fairly sound positions. They are all well able to do business at any time. In buying stock numbers of them are always prepared to pay cash. They do not want to give bills for twelve months to renew for another twelve months; but in this district there are a lot who can do with a six months' bill. Practically the whole of the traffic on the territory I have described converges at Warren, in order to get to the railway at Nevertire. The state of the ordinary bush roads from Warren outwards depends upon the character of the seasons. If it is dry, the roads are good, but if it is wet, they are very bad in places. The teamsters have plenty of sea-room to get backwards and forwards. About eight different roads converge at Warren, and the traffic is there concentrated on one track. If stock-owners could get stock conveyed at 2s. 6d. per truck between Warren and Nevertire, I think they would be willing to pay that amount. Taking all seasons, I think also they could afford to pay 2s. 6d. a ton for the carriage of wool between Warren and Nevertire. In regard to the objections to Nevertire as a trucking station for stock, I may say that in the dry time there is scarcely any common there on which stock can feed. In addition to that, it is not a good place for water. There are plenty of water in the Government tank, but stock that are not used to drinking out of troughs will not go there to drink. Besides, the water is discoloured, and sheep do not care for it. I have seen sheep drink there, but cattle will not look at the troughs at all. The stock passing through Warren have had scarcely any experience of drinking out of troughs, and when they get to Nevertire, they see these troughs for the first time, and will not go up to them. The probability is that a lot of cattle, or the majority of them, will go into the trucks at Nevertire without a drink. This would affect their value to a certain extent, especially with a long train journey before them, and the probability of their having gone dry the day before. These objections would be overcome if Warren were used as a central trucking-station, and facilities provided for the loading and unloading of stock. In the first place, we should have a permanent supply of good water here. We have the Macquarie River, and also the Burlong Creek, which always contains water. Ever since I have been here I have seen plenty of water. The town common embraces the two water-courses I have mentioned. Stock coming to a railway station here would cross both; they would travel up the one, and cross the other. They would, therefore, be able to get a good drink before going into the trucks. There is a more extensive common at Warren than at Nevertire, but the country is not better. In grazing capability it would practically be about equal. Another objection to trucking at Nevertire is the fact that the stock have to traverse the road between there and Warren. That road is very bad in the winter time, and also in the summer, because it is now almost practically one lane. I think it will not be very long before the portion called Snakes Plain will be fenced in, so that there will be only about 4 miles out of the 12 along which the road will not be fenced in on both sides, giving a width of only 4 chains. The effect of taking a flock of sheep through a long lane like that, in which there are plenty of Bathurst burrs, is that they will be covered with burr at the other end. The burrs alone would reduce the value of the sheep by at least 6d. a head. In addition to that, if the weather were wet, another 6d. a head would be taken off the value of the sheep, so that, practically, the sheep would be worth 1s. a head less in the market through having to travel along this road under the circumstances mentioned. The roads from Warren outwards are very clear of burr. Nearly all the stations keep them very clean. So that practically, stock arriving in Warren are in a good, clean, sound condition. But when they get to Warren there are a few burrs growing on the common. These may be removed later on either by the Town Council or some other authority. If Warren were made the principal trucking station I think steps would be taken to clear the common of Bathurst burr, in order to assist stock-owners to send their sheep down in first-class order. The year before last the burrs were very long on the Nevertire common, and a firm at Nevertire, as well as our own firm, paid men to cut the burrs on the common, so that we could get the sheep to the trucks without their being covered with this pest. On odd occasions our stock are delayed at Nevertire for want of trucks, but I do not think that is altogether the fault of the Government. It arises perhaps through the trucks not having been ordered in sufficient time. Stock may arrive earlier than was intended, or the drover may not have given sufficient notice that he would be here on a certain date, and the trucks have not been able to be here by that date. In the event of stock having to remain at Nevertire for a day or two, they, of course, do not get much feed. Warren would be a superior place as a depôt under circumstances of that character. A few miles from Warren you could manage to get paddocks for the stock if they arrived before their time. As a man who has had five years' experience of Warren in connection with stock, I am of opinion that it would benefit this great pastoral district if the railway were extended here, and increased facilities thus given for the conveyance of stock to market. In the event of the railway being extended to Warren, I think there would be a movement towards the establishment of chilling or freezing works. The idea has been mooted for some two years. My own opinion is that Warren would be a very suitable place for the purpose, commanding as it does such a large extent of first-class pastoral country. There is a number of convenient places which could be obtained close to the town on which to erect boiling-down and chilling works. Warren and the district around compare favourably with any other district that I have been in. In fact, I do not know any better district in New South Wales. I have been to Moree, and this district is of a very much similar description. I think the prospects of the district would warrant the Government in constructing a railway from Nevertire to Warren, and from my knowledge of the extent of business carried on in stock and goods, I believe it would be a payable speculation. In reference to stock and goods, as well as passengers, going to Nevertire from the Warren side of the Macquarie, I would point out that they must come to Warren. There is no other crossing-place between here and Coorinda, a distance of nearly 100 miles. All the roads converge at Warren, and there is no other crossing-place on the river.

Mr. Daniel M'Alary, Selector, near Warren, sworn, and examined:—

Mr. D. M'Alary. 11 May, 1896.

To Mr. Wright: The country there is similar to that in the neighbourhood of Warren, consisting of myall plains and occasional pine scrubs. It is all good pastoral country, and good agricultural country as well. Land has been cultivated in that neighbourhood. I have seen wheat growing on Haddon Rig. I live

Mr. D. M'Alary. 11 May, 1896.

live on the adjoining run. The wheat I saw grown on Haddon Rig was a very fine crop, and, as far as I remember, the season was an average one. I could not state the rainfall in the part where I live. Although wheat-growing would not be a success every year, taking one year with another, I believe that a larger yield per acre could be grown here than in any other part of Australia I know of. I do not think it would pay to grow wheat at 2s. 6d. a bushel, either here or anywhere else, and I made my living for a number of years by growing wheat. If it paid to grow it anywhere else in the colony, it would pay to grow it here. I know the Goulburn River in Victoria very well, and I know that it does not pay to grow wheat there at 2s. 6d. a bushel. The soil here is better than any on the Goulburn in Victoria, and, taking one year with another, we could produce more wheat per acre than can be produced on the Goulburn River in Victoria. Though we have not as good a rainfall, we have a far better soil. All the land within a radius of 20 or 30 miles from here available for settlement in small holdings has already been taken up. All the resumed area is gone. In the event of the leasehold areas being thrown open, every acre of it would go within one month. It would be taken up by *bona fide* selectors looking for homes. It would not be in the shape of additional conditional purchases. A great many new-comers would take up this land, and many of those already here would take up additional holdings. No doubt the sons of many of the people already here would take up land apart from their parents, and I suppose some of the station hands would also take up land. While matters remain as they are at present, without a railway, the settlers here must produce wool. If a railway were constructed, the land within 20 miles of Warren would probably come into other forms of occupation. I believe that dairying would be one of the principal occupations, and I think also wheat production. It has been said that dairying operations could not be successfully carried on here in summer time unless ice could be obtained, but, in my opinion, if a railway were constructed, we should soon have a refrigerating establishment second to none in New South Wales, where meat would be frozen and tinned. I have no doubt that such would be the case, and I would take 1,000 shares to-morrow myself. I see no reason why dairying should not be carried on successfully. At present a great deal of the butter used in the district comes from the South Coast. There is some good pine out where I live, and some box, though I am not aware that the latter is useful for any purpose. I am quite confident that if the leasehold areas were thrown open not an acre of it would be left within one month. Before coming here I lived on the Ovens River in Victoria, and I also lived for four years on the Tuppal Station on the Murrumbidgee. From my knowledge of this district I should recommend my friends in Victoria to come here and take up land for selection. Some of them have already done so. My opinion of the district is so favourable that I think it would be a good thing for any man to come and settle here. I have brought members of my own family here, brothers and others, and have tried to induce other men to come. I should like to see the railway go even beyond Warren—to Coonamble, or anywhere through the producing district. If the railway went to Coonamble it would go near my place, the surveyed line being within half-a-mile of one portion of my holding. A railway to Nevertire would do the people around my neighbourhood a great deal of good. I had fat sheep one year, and I sent one draught of them to Nevertire. The roads were very bad at the time, and I resolved to wait until they were better before sending the others. The road between Warren and Nevertire continued so bad that I had to keep these sheep, over 1,000 in number, and shear them, and I consider that I lost at least 6d. a head by keeping them. Had there been a railway at Warren they could have been trucked here, because you can always get to Warren. When I speak of the road being bad I refer particularly to the road between Warren and Nevertire. Had there been a railway at Warren the loss I suffered would not have occurred. My case is a typical one, and others have been in the same position. My place adjoins a travelling stock route, along which a great many stock travel from the Coonamble direction. I think stock-owners would prefer to send their stock from Coonamble to Dubbo, rather than along the road past my place, which it is not always possible to travel. I am convinced that at least 50 per cent. more sheep than are now trucked at Nevertire would be trucked at Warren if we had a railway station here. Sheep that are now trucked at different stations between here and Dubbo would come to Warren. The owners now send them to these other stations, because they dread the 12 miles of road between Warren and Nevertire. In winter time that road is almost impassable, and in summer time there is no water for the stock. There is a tank at Nevertire, but my experience is that sheep will not drink out of it. I would not even think of trying my sheep at it, because they are not used to drinking out of troughs. If I attempted to get them to drink, the result would simply be to knock them about, and I do not suppose that 1 per cent. of them would taste the water. I have never tried to give my sheep a drink there. I think the railway, at any rate, should come to Warren, and I am quite satisfied it would pay the Government well. If it were necessary I should be quite prepared, as a producer, to pay special rates on the line between here and Nevertire, but I feel quite satisfied that special rates would not be necessary. In common with other producers, I would not object to pay 2s. 6d. or 3s. a truck for sheep and cattle from Warren to Nevertire. That would be less than the present cost, besides being of benefit to the stock. I do not think it likely that the people would afterwards turn round and repudiate the special rates, because it would be a decided advantage to them to pay the rates proposed by the Railway Commissioners.

To Mr. Hassall: The area of the land I hold is a little over 12,000 acres, and it carries at the present time between 9,000 and 10,000 sheep. I send the whole of my wool through Warren to Nevertire, and receive my goods back from Nevertire through Warren. There are a great number of selectors in my locality in a similar position to myself, some holding almost as large an area, and others not so much. They all do business with Warren, and they would be benefited by the proposed railway, because at present they have to go to Nevertire. In my neighbourhood *bona fide* settlers, with their families, have on an average more than two sections each, and a family holding would range from 5,120 acres to 10,240. These settlers would benefit equally with myself by the construction of a railway to Nevertire, and I feel convinced they would be content to pay the rates indicated by the Railway Commissioners, as it would be an advantage for them to do so. I should like to mention that at present a portion of the wool grown at Coonamble is sent to the railway at Nevertire. The bulk of the Coonamble passenger traffic also goes to Nevertire, and a portion of the goods required by the Coonamble people is brought from Nevertire. I believe if the line were constructed to Warren, and the 12 miles of the worst part of the road got over, the whole of the wool from Coonamble would come into Warren, as well as the whole of the passenger traffic, and all the goods required for Coonamble would be taken from Warren. Therefore, I believe that even in the first year of its working, the returns from the railway at Warren would be more than equal to the present Nevertire returns. The increase in the way I speak of would more than compensate for the loss of the traffic that belongs to Nevertire alone.

Mr.

Mr. William Wallace, Selector, near Warren, sworn, and examined:—

Mr. W. Wallace. 11 May, 1896.

To the Chairman: I am a selector, living 9 or 10 miles from Warren, in a north-west direction; I hold altogether about 4,000 or 4,500 acres, consisting of conditionally purchased and conditionally leased land, and also some annual leases. I have been there between twelve and thirteen years. My holding carries about 4,000 sheep, and about fifty head of cattle. I have a cultivation of 5 acres consisting principally of wheat. I consider the land very good for wheat-growing, and I get a good crop in most seasons. Taking one year with another, I consider it a good district for wheat-growing. I grow the wheat principally for my own consumption, and I make hay of it, of which I get from 1 to 2 tons an acre. I have grown lucerne as well as hay. I think the district is a very good one for growing wheat for grinding purposes. I should say the average yield of wheat per acre is about 20 bushels. In my neighbourhood there are many selectors in a similar position to myself, and so far as I know, they are all doing fairly well. I send my produce to market through Warren to Nevertire, which is a direct line. The quantity of stock per annum which I send to the railway varies. In some years I might, perhaps, send 1,000 fat stock, and in other years I might send 1,500. Last year I sent cattle but no sheep. My holding has a frontage to the Macquarie River. I think the proposed railway is very much wanted. I generally drive my own stock to the railway, and I have had considerable trouble in taking them through the lane between Warren and Nevertire. I can always get to Warren with stock or goods without difficulty; the trouble is between Warren and Nevertire. We can get along the road in a dry season, but there is no water at Nevertire that the stock will drink. I have often paid for the sheep to drink, and perhaps only thirty of them would drink, and the others would go without water. Then in wet weather you cannot get through the lane at all. I have had to ask for permission to go through one of the paddocks, or otherwise I should never have got to Nevertire. By going through the paddock on the occasion referred to, I did the journey from Warren to Nevertire in a couple of days, and sometimes it takes longer. I could not have got there at all if I had not obtained permission to go through the paddock. The road is nearly all fenced in at the present time, and if it were fenced in altogether it would be impossible to get the sheep through in a wet season. Through having to travel that short road the sheep deteriorate in value, owing to want of water in dry weather, and to the bad state of the road in wet weather. If a railway were constructed to Warren I should be prepared to put more land under cultivation, probably about 100 acres, but it would depend upon whether or not it was a paying speculation. Personally, I should be prepared to pay the special rates which have been mentioned if the railway were constructed to Warren, and I have spoken to other selectors, who say they are prepared to do the same. With regard to the carrying capacity of the land in my neighbourhood, in good seasons it would carry a sheep to the acre, but I think, taking all the year round, the average would be about 2 acres to a sheep. That would be on the river flats.

Mr. John Colley, Warren, sworn, and examined:—

Mr. J. Colley. 11 May, 1896.

To Mr. Hassall: I reside at Ravenswood, in the township of Warren. I have been in the district for about forty-four years. I retired from business about five or six years ago. When I first came to the district, the whole of the country, except one sheep station, was under pastoral occupation, and there was just a hut here and there on the river, where the stockmen used to live. There was no sign of the fine buildings that are now seen in the town. There was no mail at the time, and any stockman going to Dubbo, brought back the letters to all the stations as far as he went. I was the first Government postmaster on this river. It is about twenty-seven years since land was first sold in Warren, but there were very few selections taken up for a considerable time. Just over the river a selection was taken up in 1868 or 1869. Very little settlement took place until 1884, when men began to come across from Riverina. The Land Act of 1884 induced people from Victoria and elsewhere who had capital to come here, where they remained and developed the country. They had no idea we had such splendid country, and when they came they sent for their friends, and people came in large numbers and took the country up. Nearly every selector here came from Riverina, and they were all good men. The growth of the district has been very rapid. It was such a good district that it never retrograded, and since it started the town of Warren has steadily improved. It has progressed without any check whatever. I do not suppose you could find a better town than Warren, as regards business and everything else, in the whole of the western districts. Commercially, it is very sound. I have heard commercial travellers say that it is the best township of their experience as far as money matters are concerned. There are no unemployed here, with the exception of a few who may camp about before shearing time. From what I have seen of the district and of its progress during the many years I have lived here, I am of opinion that it has claims sufficiently strong to justify the Government in constructing a railway to Warren. The effect would be to still further increase the prosperity of the district. Many new industries would crop up, including a flour-mill. I consider that the rates proposed to be levied on the railways are reasonable, and believe the people would be perfectly willing to pay them. Considering the prices I have had to pay for carriage when in business, I consider it would be a great boon to get the railway here, and to have goods and stock carried at the prices mentioned, and with those prices I think the people ought to be perfectly satisfied. They are a great deal lower than the prices now being paid for carriage. The people have wanted a railway for a long time, and if the Government refused to construct it, they would be perfectly willing to build it themselves, and were prepared to subscribe the necessary funds. We have been agitating for a railway ever since the late Mr. Sutherland was in charge of the Public Works Department. I think the agitation started in 1882. I have been present at deputations that have waited upon different Ministers on the subject. A direct promise of a railway was received from Mr. Sutherland, and also from Mr. Lyne, and Sir Patrick Jennings. The present Premier, when he was here, spoke in favour of the railway. Everyone who has been in the district and seen the quality of the land, the traffic along the many roads converging at Warren, and the amount of business done, has recognised that we ought to have a railway. At one time I had selections down the river, and I have frequently taken stock along the road from Warren to Nevertire. After very wet weather, when the teams had cut up the road, I have had sheep drowned in the ruts, and I could not get them out. People have had to pay commonage until they could get their stock to Nevertire, the delay lasting, possibly, for a week or ten days. The great drawback to the town of Warren and the extensive district surrounding it is the existence of this length of road between Warren and Nevertire. The construction of a metalled road would not remove the objection. It would never pay to construct a road, because you would have to be constantly repairing it.

Mr. J. Colley. 11 May, 1896.

it. I have seen a bit of road made there, and I have seen teams get bogged in it and capsize. I refer to the part that has been formed by the deposit of sand and earth. In regard to the fertility of the soil, I may mention that some of the land over the river has produced very fine crops. Three crops have been produced in one year off the same piece of land. I have grown pumpkins, potatoes, and wheat successively on the same piece of land in the same year. I have grown as fine potatoes as ever were seen.

Mr. Edwin Utley, Timber Merchant, Warren, sworn, and examined :—

Mr. E. Utley. 11 May, 1896.

To Mr. Wright : I am a timber merchant, and have lived in Warren for about eight years. I started the first saw-mill in Warren. We get our timber between here and Bullagreen, and gradually we have to go further and further away. For the last six months I have been cutting red gum from my own land about a quarter of a mile from where we are now sitting. There is plenty of suitable timber for railway sleepers, but in regard to timber required for bridge work it would be difficult to get it in sufficient lengths. I daresay we might be able to get sufficient timber to supply sleepers for the railway at Warren, but we would have to go some distance away. We took a lot of timber out for the Cobar line. I could supply sleepers, 8 x 4½, for about 7s. a pair. I think I might manage to find sufficient for the line. We have some good pine here, but it is gradually getting further away. We are drawing logs now for a distance of about 24 miles. There is pine growing on Crown land 9 miles nearer Warren than the place from which I am now getting pine. I am getting 10s. per 100 feet for ordinary sawn pine delivered to any building about the town, and 13s. per 100 for dressed timber. There is any quantity of pine to be got at these prices, but it has to be drawn a long distance. If it were determined to construct a railway to Warren I could supply at reasonable prices all the sleepers and all the pine required for the station buildings. With regard to the long stuff required for girders and piles for the bridges, we should have to go into the ironbark country for that class of timber. In fact, I think it would be almost better to get it from the coast. I refer to extra long stuff—anything over 25 feet. There is no suitable ironbark nearer to Warren than about 56 miles. If the railway were constructed I should be able to supply people along the line with timber, and in that respect a traffic would be created. On one occasion it cost me £1 a ton to bring timber from the Nevertire railway station to Warren. If the railway were constructed it would enable myself and others in the same line of business to import foreign and coast timber. In my opinion a railway to Warren would be a great boon to the whole district, and it would do good to the country as a whole. It would pay well, because it would open a lot of country now lying dormant, and some of which will not carry a sheep to 50 acres. I could drive the members of the Committee in an hour and a half to one of the Wonbobbie leaseholds, where there is land that would grow 30 bushels of wheat to the acre, but which, in its present condition, will not carry a sheep to 50 acres. The land, being exceptionally rich, has grown so much scrub that the grass has all been killed, and sheep cannot get a bite off it. It only wants to be opened up for settlement. In regard to the richness of the soil in this district, I may say that when I came down here about eight or nine years ago I rented a small holding of Mr. Cook, and I put the plough in the second day after I rented it. It had not been ploughed for thirteen years, and I got 28 tons of hay off it. In the following year I got as much more. I sowed nearly 2 bushels of seed to the acre. It grew about 7 feet high, and the hay was of beautiful quality. I cleared over £200 off 14 acres of land in two crops. I cut the hay up into chaff, and sold it for £8 a ton.

Mr. Charles Hunter, Manager of Haddon Rig Station, near Warren, sworn, and examined :—

Mr. C. Hunter. 11 May, 1896.

To the Chairman : I am manager of Haddon Rig Station about 20 miles to the north-west of Warren. I have been in the district for about five years, but I have been acquainted with it since 1874. The resumed area of the station is all gone. There are about 47,000 acres of freehold land, out of which there are about 8,000 acres of conditional purchases and conditional leases. There are about 70,000 sheep on the station at the present time, besides a milking herd, and sufficient horses to work the station. There ought to be more sheep on the run, but last spring and winter were very bad, and I had to sell off a lot of sheep to make room. We generally carry about 100,000 sheep or over. Taking one season with another, good and bad, the country will carry about a sheep to 1½ acre. That is a fair sample of the country around. We have double frontage to the Marthaguy, which, however, is not a permanent creek, and we have four dams upon it, which we placed there by permission of the Land Board. The water seldom fails, but it has done so. The dams are very good, and hold the water well. The water at Nevertire, which cattle and sheep will not drink, is tank-water from the surface, and it gets the drainage of the town, and I think that is the reason stock will not touch it. The dams on Haddon Rig, to which I have referred, are all filled by water coming down the creek. With the exception of two or three small portions, the land on the station which has been resumed by the Government, has all been selected. After it was thrown open it was taken up gradually—about the year 1888 and afterwards. It is true, as stated by several witnesses, that directly land about Warren has become available for selection it has been quickly taken up, and it would seem that land is wanted. But I think there are a great many making a noise about wanting land who are not eligible to take it up. I do not think the agitation is genuine—that is to say, not within the meaning of the present Land Act. The policy of the Land Act is that every man in this division should have 2,560 acres and no more, and the agitation for land is got up mostly by people already holding that area, and also by land-agitating agents for their own purposes—to create business. I think there is a fair demand for land around this district, but not such a demand as these agitating agents would lead people to believe. I do not think people have got their eyes on this part of the country as the one place to which to come and settle. We have got remarkably good sheep at Haddon Rig. I do not know that there are any better in the district. I always try to keep plenty of grass for the sheep. I have generally got more grass on Haddon Rig than the neighbouring stations have, and consequently Haddon Rig has a good name for grass, and is said to be better country, which is not the case. It is because the other stations are overstocked that Haddon Rig looks so much better. The land is equally good in quality. It does not do to keep this country too fully stocked without spelling it. Squatting here is gambling with the weather. It will not do to overstock, and allow all the grass to be eaten. I have known 60,000 sheep die on Haddon Rig in three years. Of late years there have been no heavy droughts but what has occurred once may occur again. If a similar thing took place now it would be very disastrous, because the country is much more heavily stocked, even allowing for its improved condition, than

Mr. C. Hunter. 11 May, 1896.

than it was during the bad drought to which I have referred. Now that the railway is at Nevertire, and the Railway Commissioners are allowing store stock to be carried at half price, there is some chance of getting the stock away in dry seasons. During last winter and spring there was a drought which affected most of this country, and had it become a little more severe I do not know where the sheep could have been taken to. I could not have taken advantage of the railway, and the sheep would have had to remain at home and do their best. I think the country about here is suitable for holdings about 2,560 acres in extent, and that with that acreage men can make a fair living, more especially where they have a family and can take up a few selections and manage it themselves. I know some who are doing very well—steady, hard-working, decent fellows. As a rule the men with holdings, such as I have just mentioned, are industrious settlers, doing fairly well. With regard to agriculture, I reckon that if I get one crop out of three I do very well. That has been my experience. I grow a wheat crop because it is the hardiest. I always like to keep a big stock of hay. I generally put wheat in every year, reckoning upon one crop out of three. I cultivate about 50 acres—just sufficient to grow a reserve of hay. With regard to the rainfall, I have statistics since 1878, and the average is about 18½ inches. It is a very fair average for country of this character, but I have known the rainfall to be as low as about 9 inches, which, of course, means disaster. We had a very bad drought in 1888, but it lasted only one year. When droughts occur, as they used to do in the olden times, two and three years running, then they become very serious in their effect. I do not deal in fat stock, but sell sheep as stores in bulk, and, with regard to my station supplies, they come from Nevertire through Warren, and my wool all goes through Warren. I can tell what I have sent away during the last three years, and the figures will show fluctuations in the seasons. In 1893, I sent away 2,203 bales; in 1894, 2,831 bales; and in 1895, 1,704 bales. The reduced number in 1895 meant a bad season and fewer sheep. This did not exactly mean a loss of sheep, because I sold them to make provision for a bad time. In 1895 the clip was a light one. Another explanation of the reduced clip in 1895 was that in 1894 we went through the shearing troubles, and I was nearly three months shearing. In 1895 I had a full board, and I cut through very quickly, which meant that the growth of the wool on the sheep was a month or six weeks less than the year before. With regard to the cost of carriage from my station to Nevertire, I cannot tell the price per ton, as I make a contract in bulk with Wright, Heaton, & Co., who deliver the wool in Sydney. With regard to other people in the neighbourhood, I think they pay about 25s. a ton for carriage to Nevertire, but I cannot say for certain. As to the proposed railway from Nevertire to Warren, considering the very bad condition of the road, which is often impassable, I have had my wool stopped—there is no doubt the railway would be a great advantage. I consider that from 15s. to £1 per ton is a heavy charge for carriage over a road of 12½ miles, but the high rates charged are owing to the state of the road. It would cost far more to make a road than to make a railway, and there would be no return. It is my experience that until the carriers get to Warren they can always get along, as there is, so to speak, plenty of "sea room" for them, and they can make their own road. The trouble begins when the traffic is concentrated upon the one road from Warren to Nevertire, which is the worst bit of road about here that I know of. The road from here to Nevertire is a constant joke, particularly the part at Snakes Plains, as it is called. I have travelled through there in a buggy with a strong pair of horses, and had to walk slowly the whole way. There is no material available for making a road; it would be a most expensive work. The road would first have to be logged in order to get a foundation, and ballast of some sort would have to be deposited on top of that. A light railway could be made at less cost. In regard to trucking stock, there is plenty of good water at Warren, but none at Nevertire, and in this hot country that is very important. In this respect Warren is a more suitable place for trucking sheep than Nevertire. The Government started boring for water at Nevertire, but I believe have given up the attempt. Looking at the fact that I only get one crop of wheat in three years, I do not think this is likely to develop into an agricultural district. Farmers might possibly get two or three consecutive crops, but on the other hand they might have two or three consecutive failures. It all depends upon the seasons. I think it is chiefly a pastoral country. The most distant place from which wool is sent through Warren to Nevertire is Brewin, down near the Barwon, distant about 80 miles. All the wool from intermediate stations comes this way. I have not made a calculation as to what proportion of the wool and other traffic put upon the railway at Nevertire passes through Warren, but I have a pretty good idea of the proportion, inasmuch as a great bulk of the wool and produce sent to the railway at Nevertire goes through Haddon Rig, and necessarily passes through Warren. Except at Gil Gil, about 27 miles from here, there is no means of crossing the river besides the bridge at Warren. There is no doubt that all these things point to Warren as a centre for traffic finding its way to the main line of railway. If a railway is not constructed, it will be necessary to erect another bridge at Warren, as the present one is too narrow for the traffic. There have already been several accidents owing to wool teams jambing in the bridge. I think if a railway were constructed the people here would be willing to pay the special rates proposed to be fixed by the Railway Commissioners, namely, 4s. a ton for goods, 2s. a head for passengers, 2s. 6d. a ton for wool, and 2s. 6d. a truck for live stock. It strikes me, however, that the charge for goods is rather high, and also the charge for the trucking of live stock, because if the road was good the stock would be taken on and trucked at Nevertire. I for one would be prepared to pay the charges mentioned.

To Mr. Wright: I was formerly managing the Gingie Station, on the Barwon. While there I knew of wool coming from the neighbourhood of Walgett in this direction. It came from Brewin, which is about 50 miles down the river this side of Walgett. That is the furthest point from which I have known wool to come in this direction.

To Mr. Hassall: With regard to the cost of conveying stock from Warren to Nevertire, there is no doubt that in summer time the advantages in the shape of a large common and good water supply which exist at Warren would more than compensate for the railway charge from Warren to Nevertire. Sheep take two days to go from here to Nevertire, and when there they do not get a decent drink of water, and consequently are trucked on the railway at a great disadvantage. The stock get feverish, and when they arrive in Sydney they are not in a fit condition for killing. I have noticed this by observing sheep in the butchers' shops in Sydney, the fat of the sheep exhibiting a pink tinge. As a practical man, I am aware that where stock are taken through a lane where they are confined, and where the burrs are pretty thick, a serious injury is done to the wool. It is not the case that the roads leading into Warren are fairly free from burr. Some of them are, but the bulk of them are not. A few of us cut the burr, but the great majority will not do so. For my part, I cut the burr on the Government roads, and everywhere, but the great majority of the people in the neighbourhood will not cut them, and thus they keep up a supply for

me

Mr. C. Hunter. 11 May, 1896.

me to cut again. It is a great pity that the old Act which made the cutting of the burr compulsory was ever repealed, and I should like to see that law introduced again, as nothing is more urgently required. The Bathurst burr ought to be treated as a noxious weed. You could not well get a worse road through which to take sheep than that between here and Nevertire. For this reason I do not think that many stock would pass through Warren to be trucked at Nevertire if there were trucking facilities here, and the charge between Warren and Nevertire were 2s. 6d. a truck, except, perhaps, at a very good time, when there was plenty of grass and water about, which is very seldom the case now.

Mr. Charles Bathurst Halliday, Solicitor, Warren, sworn, and examined:—

Mr. C. B. Halliday. 11 May, 1896.

To the Chairman: I am a solicitor practising in Warren, and I have been here about three years and three months. I produce a plan which was used when the town was incorporated, and which shows that the municipal boundaries are the same as the boundaries of the Warren temporary common. The area is given in the *Government Gazette* of the 24th April, 1895, as 22·8 square miles. The area of the Warren temporary common is between 14,000 and 15,000 acres. A few special areas have been taken from the common, but these amount to a very small portion. Compared with other towns, Warren is exceptionally favoured as regards the extent of its common. The quantity of land taken from the common in the shape of special areas does not exceed 1,000 acres. The common is very well watered, as besides the Macquarie River, the Gunningbar, or Burlong Creek, and also the Beemullnel Creek run through it. I can testify to the activity of the town of Warren as compared with Kiama, Carcoar, and other towns. You see more activity in the main street of Warren in a day sometimes than you would see in these other places in a month, even including some of the towns on the northern rivers, and I have been on the Tweed River. As far as my experience goes, this is a very progressive district. The Tweed River is a progressive district, but there is considerably more life here than in the towns on the northern rivers.

Mr. Henry Arthur Davies O'Connor, Licensed Surveyor, Warren, sworn, and examined:—

Mr. H. A. D. O'Connor. 11 May, 1896.

To the Chairman: I am a licensed surveyor residing at Warren. I was employed in the Warren district from about 1883 to 1889. After that I was away for about five years, and then I came here, where I have been residing for the last two years.

To Mr. Wright: During the first period that I was here I was engaged in surveying all through the district—down the Marthaguy and Merri Merri Creeks. I can give you a pretty good idea how the land is taken up to the north, north-west, and north-east of Warren. Practically the whole of the land available for conditional purchase and conditional lease has been applied for. With the exception of about half a dozen, the whole of the runs in this part of the central division have obtained an extension of lease. In most instances the lessees have five years to run. A few have two years, and two or three have one year, so that, generally speaking, for four years longer this land is all locked up. I consider that it is suitable for settlement. To the north, north-west, and north-east of Warren the country is suitable for comparatively close settlement in blocks of from 2,000 to 7000 or 8,000 acres, occupied by families. If this land were opened now for ordinary conditional purchase and lease the whole of it would be taken up at once. It is in every way suitable for small pastoral holdings. I believe if the land were thrown open now under the settlement lease provision of the Act in suitable areas the whole of it would be taken up. Under existing conditions it would be retained for pasturing sheep; and even with smaller holdings up to 5,000 acres, it would still be used principally for sheep. It may be true to some extent that our rural population do not care for cultivating land when they can get a living by grazing sheep, and agriculture is a hard and laborious work, with uncertain results, while, in the case of sheep-farming, the wool is always growing. Nevertheless, the land in this district, I believe, would be cultivated if the people had railway communication. I believe that if a man had 5,000 acres upon which he could live comfortably growing wool, he would still cultivate 400 or 500 acres, because by doing so he would add considerably to his income. I consider that rapid settlement would take place in this district even without a railway, because the land is so good; but if there was access to a railway agriculture would be combined with grazing. I have been led to believe by men who are now holding the land that if the proposed railway is constructed they will give agriculture a good trial. A very large proportion of the land here is suitable for agriculture, and the rainfall is a fairly good one—somewhere about 20 inches. I do not believe that in the Land District of Warren there are 2,560 acres of land available in one block. I do not think there are many reserves on what we know as the resumed areas. The only reserves I know of are stock reserves and camping reserves. There are no unnecessary reserves. I think if the railway were constructed it would pay from its inception, and that the country as a whole would benefit. It would also be beneficial to the district generally, and to the town of Warren in particular, provided it does not go beyond. The people of the surrounding districts would be able to get their produce to the metropolitan market at lower rates than at present. I believe the railway would pay, because Warren is the focus for such an immense traffic. With regard to the rates indicated by the Railway Commissioners, the general impression is that they are reasonable, and I think the people would be willing to pay them. I have been engaged in appraising land for a good many years in connection with conditional lease rents, and so on. With regard to the value of land in the town of Warren, I daresay that a frontage to the main street would be worth from £7 10s. to £10 a foot. The land in the back streets would be valued at so much per lot. Personally, I do not think that from £3 to £5 per acre for the suburban lands which have been recently thrown open for conditional purchase is too high, considering the terms. There is land within a mile of the Court-house in which we are sitting worth from £10 to £12 an acre—or at any rate within three-quarters of a mile. Beyond that distance the value of the land would rapidly go down to about £4 or £5. There are some sections in the outlying parts of the town that are not yet sold. Probably these are some lands that are subject to inundation. At every land sale which takes place at Warren the land is nearly always sold, and there is an advance on the upset price. If twenty lots were put up to-morrow, comprising half-acre allotments, at the site of the proposed railway station along the flat, I think they would readily fetch £10 each. An allotment was sold there the other day for £80. That might have been partly owing to the projected railway. If this Committee negatived the railway proposal, the land would only be valuable to a man who wanted to use it. It would not have a speculative value. I should say that the intrinsic value of the land on the proposed site of the railway station between the gravel pit and the cricket ground would be about £15 an acre—the intrinsic, and not the speculative value.

Mr. Harold Wingfield Stanford, Crown Lands Agent and Clerk of Petty Sessions, Warren, sworn, and examined:—

Mr. H. W. Stanford. 11 May, 1896.

To the Chairman: I am Crown Lands Agent and Clerk of Petty Sessions at Warren. I have occupied the position of Crown Lands Agent for two years, and that of Clerk of Petty Sessions for four years. I have a return of my work as land agent, which shows the amount of revenue received for the year in the shape of sales, rents, instalments on conditional purchases, rents of conditional leases, rents of annual leases, and proceeds of auction sales. The total revenue from these sources for the year 1895 was £14,253 12s 3d. This amount does not cover the whole of the rents of the land in the district, about half of which would be paid direct to the Treasury. So that really this only represents about half the land revenue of the district. The proportion of revenue derivable from the Warren district would be about two-thirds. The total area of the land district is 2,900,000 acres. The instalments and payments in connection with the land are paid up very regularly. There are very few defaulters. Only about one conditional purchase has been forfeited in the district since I have been here, and very few have changed hands. As far as my observation goes, the settlement which has taken place is of a permanent character. Several areas have lately been thrown open for settlement lease, and the competition for them has been very keen. There have been as many as seventy-five and sixty applicants for one block, and there are always from forty to fifty applicants. I am referring to any area up to 2,000 acres in extent. Where freehold land has been offered the upset price has been generally exceeded. I have the sheep return for the Warren district for the year 1895. The total number of sheep was 617,317. The revenue derived from assessments would be £234 7s. per annum. This number of sheep includes a portion that would go to Nevertire. A very large number of sheep goes through the town of Warren to Nevertire. There are constant complaints about the bridge here—that it is a bad place for crossing, and people come here to see if anything can be done about the matter. A large quantity of wool also passes through Warren in the wool season.

Mr. George Self, Post and Telegraph Master, Warren, sworn, and examined:—

Mr. G. Self. 11 May, 1896.

To the Chairman: I am Post and Telegraph Master at Warren, which position I have occupied for sixteen years. The town of Warren has increased very much within the last three or four years. I have made out a return of the post and telegraph revenue received at Warren, and showing the business done there for the last quarter in each of the years 1893, 1894, and 1895. It is as follows:—Quarter ending December, 1893—Issued, money orders, £1,657 6s. 5d.; commission, £17 4s.; savings bank deposits, £1,590 15s. 10d.; postal notes, £112 11s. 6d.; stamps, £408 5s. 6d. Quarter ending December, 1894—Money orders, £1,324 1s. 6d.; commission, £13 18s. 6d.; savings bank deposits, £1,497 14s. 5d.; postal notes, £206 14s. 5d.; stamps, £365 5s. Quarter ending December, 1895—Money orders, £1,480 0s. 5d.; commission, £18 16s. 6d.; savings bank deposits, £1,030 13s. 5d.; postal notes, £220 17s. 4d.; stamps, £396 9s. 6d. The business transacted is pretty uniform throughout the year. It will be observed that in regard to the issue of money orders and savings bank deposits, the figures for the year 1893 are greater than those for the subsequent two years. The reason of this is, because, owing to the suspension of the banks, which took place about May or June in 1893, the money orders and savings bank deposits were greater at the end of that half-year. There is a mail twice a day from Warren to Nevertire. There is a large amount of money in deposit at the Government Savings Bank here, and the accounts show a very regular average. There is a great number of permanent deposits, the average being about £5,000 a year. Besides the mail coach, there are six others running between Warren and Nevertire, and the owners have been making a living for the last three or four years. There is a very heavy mail from Nevertire to Warren and the district beyond. The revenue for the year 1895 was as follows:—Money orders issued, £4,879 12s. 5d.; commission, £57 6s. 6d.; savings bank deposits, £3,204 19s. 1d; postal notes issued, £686 13s. 6d.; postage stamps, £614 4s. 6d. We do a pretty fair business at the telegraph office, the average revenue being £9 per week.

To Mr. Wright: The number of mails we send to Nevertire per week is twenty-eight. We make up mails for Coonamble three times a week, for Quambone twice a week, for Mount Harris twice a week, and altogether we make up about forty-five mails a week, besides which we have twenty-four private boxes, some being very large. After all the expenses are paid at the post and telegraph office at Warren, there is a clear revenue of about £1,200 or £1,300 a year.

Mr. James Kenny, Police Sergeant, Warren, sworn, and examined:—

Mr. J. Kenny. 11 May, 1896.

To Mr. Wright: I am a sergeant in charge of the police force of this district. If the runs were thrown open I have no doubt the population would increase very largely in a short time. At present there is a great quantity of land that is not available. If the railway were constructed to Warren, I think it is likely that the farmers round here would go in for wheat-growing in good seasons. I think it would pay in good seasons. Some seasons they would not be able to grow wheat. If the conditions were very favourable I believe they would cultivate, and I believe it would pay, though of course the seasons are not regular. As a public officer, having no interest outside of my official position, I believe that the construction of the railway between Nevertire and Warren would be of benefit to the district, and I have no doubt it would pay. I believe the people without exception would patronise it, because in wet weather the road between Warren and Nevertire, and especially through the lane, is impassable. I have counted forty-eight bullocks attached to a load of wool from the Wonbobbie Station, and they were unable to shift it. It was imbedded in the mud. At the same time I saw seventeen horse and bullock teams bogged in the lane between the creek and the plain. The road is bad also in dry weather for sheep on account of the scarcity of water, and the injury caused to the wool by the Bathurst burr. During the wet season to which I have referred people were paying £1 for a return ticket by coach from Warren to Nevertire. I have known men to walk from Nevertire to Warren because they could not get a coach. At the present time this district is almost exclusively confined to sheep. The cattle from about the Mole come up here to be trucked, and some go to Trangie. The approaches to Trangie are good, and there is water there. If there were a railway station at Warren these cattle would not go to Trangie. At present they go there for water. The people of Warren are an industrious and hard-working community, and I believe they would take advantage of the facilities offered to them by the construction of a railway.

Mr.

Mr. Arthur Bathurst Chadwick, Timber Merchant, Warren, sworn, and examined :—

Mr. A. B. Chadwick. 11 May, 1896.

To Mr. Hassall : I am a timber merchant, and have resided in this district for nine years. I have carried on the business of a timber merchant here during the last two and half years, and I do a fairly large business in the surrounding district. I despatch timber to the surrounding stations. I obtain my principal supply of pine from the country between Warren and Bullagreen, a distance of 28 miles. The pine is of good quality. Within 8 miles I can obtain very large quantities of hardwood, principally gum. I am certain that this timber could be obtained in sufficient quantities to provide sleepers for the railway between Warren and Nevertire. I do not think they could be delivered at the cost of 2s. 6d. each as estimated by the Department. I do not think they could be cut for less than 6s. or 6s. 6d. a pair. I am not aware of any material in the neighbourhood suitable for ballast, except what might be obtained from the gravel pit on the town common. The gravel obtained there is of good binding quality, and fairly coarse. The extent of the gravel supply has not been ascertained, but there is 7 feet of stripping, and 7 feet of gravel. With regard to gum or ironbark suitable for piles and other bridge work, it would depend upon the length required. I supplied timber for the weir on the Macquarie up to 26 feet in length. Of course the long lengths are difficult to get in gum. I could get lengths up to 26 feet. Ironbark of the best quality is obtainable within 36 miles of Warren. The road over which it would be drawn is not a very good one. There is a fair supply of timber in the vicinity, which could be utilised for the construction of a railway, if timber could not be obtained cheaper anywhere else. As a business man I should be perfectly content to pay the charges suggested by the Railway Commissioners for the conveyance of goods on the railway. They would be cheaper than the rates at present paid for carriage by road, and the railway would be a great convenience in every way. For these and other reasons I think it very desirable that the railway should be constructed. I am sure that within 10 miles of Warren the 31,000 sleepers required for the railway could be obtained, if necessary.

TUESDAY, 12 *MAY*, 1896.

[*The Sectional Committee met at the Court-house, Nevertire, at* 10·30 *a.m.*]

Present:—

THE HON. WILLIAM JOSEPH TRICKETT (CHAIRMAN).

THOMAS HENRY HASSALL, Esq. | FRANCIS AUGUSTUS WRIGHT, Esq.

The Sectional Committee further considered the proposed Railway from Nevertire to Warren.

Mr. Edward Knox Rutledge, Grazier, Ingar Station, near Nevertire, sworn, and examined :—

Mr. E. K. Rutledge. 12 May, 1896.

To the Chairman : I reside on the Ingar Station ¾ of a mile from the town of Nevertire. I have lived there for the last five years, and I have been acquainted with the district for twenty years. I first came to Nevertire about eleven years ago. The only building then about the place was on the spot where I am living, which was used as an out-station. At the present time I think there are about 200 residents at Nevertire. When I came here five years ago the township of Nevertire was in about the same condition as it is now, and it has made very little progress since. There is one store in the town, four hotels, two blacksmiths and wheelwrights, three forwarding agents and forage dealers, and a butcher and baker. It is not a progressive town. The run on which I live extends to the population boundary of Warren. There is an immense amount of traffic at Nevertire in the shape of stock and wool sent away by rail, and goods coming from Sydney. I understand that the quantity of wool and stock sent from Nevertire is larger than that sent from any other railway station in the Colony excepting Bourke and Narrabri. The bulk of the stock and wool brought to Nevertire comes from the Coonamble side by way of Warren. I should say the percentage was at least 80. Nevertire is not a good centre for stock, because there is no place where they can be watered when they come in. There are some good reserves, but no one takes charge of them, and they are not properly looked after, the consequence being that there is never any grass. I should think we are quite as well off as Warren with regard to commonage, though I do not know the exact amount of common at either place. But as regards water, Warren is in a far better position than Nevertire. In wet times it is a very troublesome thing to get stock from Warren to Nevertire, as the road becomes soft and much cut up. Within the last five years I have seen the road almost impassable for any traffic. Carriers bringing wool in have to wait until the road dries, and they come in repeatedly with half a load. There is nothing to prevent stock travelling from Warren to Nevertire in dry weather except that when they arrive here they cannot get water. The water in the Government tank is of a red colour. There appears to be something in the soil at that particular spot which affects the water, and stock do not like it. The water is given to them in troughs, and not having been trained to this method of drinking they do not like it. The Government carried on boring operations at Nevertire for some time. The boring continued for two years and three months. For the first 860 feet it went through drift rock, and after that through solid rock to a total depth of 2,500 feet. The solid rock or granite was so hard that they could only bore a foot in 24 hours. No artesian water was obtained and the bore was abandoned. There is no river or creek in the vicinity of Nevertire where stock can be watered. It is immaterial to me whether or not the railway is extended to Warren ; I shall still continue to ship my stock and wool at Nevertire. As an unprejudiced witness, I think it would be in the interests of all the property owners in the direction of Warren that a railway should go there. I think Warren unquestionably the better centre for shipping goods, wool, and stock, on the railway. It is a better site for a town, possessing superior natural advantages. There is more land on the river suitable for small farms and gardens than is the case at Nevertire. I have had experience as a grazier all my life. With regard to stock and wool coming in from a number of diverging roads and being concentrated in a long lane or road on their way to a railway station, my experience is that the last 2 miles are very bad to travel where the road is soft In the outlying country where the roads are soft, carriers can pick their way. The trouble begins where the traffic is concentrated along one road. That is the state of affairs between Nevertire and Warren. Whenever the road gets at all wet, it is cut up and it is almost impassable for sheep or other stock. Sheep coming through mud deteriorate in value very seriously. I have heard

heard many complaints about this road, from stock-owners, drovers, teamsters, and every one who has to travel along it. Its bad condition is notorious. In regard to the country beyond Warren, if better means of communication were provided, I think there would be a certain amount of farming close to the railway; but away from the railway, I do not think there would ever be much agriculture. The land about the Macquarie is of a splendid character, and grows lucerne, and crops of that description. I do not think there is much land suitable for wheat close about Warren. The red ground is more suitable for wheat. Between Nevertire and Warren there are patches of ground that would be very suitable for the growth of wheat. I am inclined to think that the southern side of the line will be a great producing district, between here and Nyngan. The country in the direction of Coonamble is similar to that between here and Warren. Patches of the timbered country there would be suitable for wheat. I should describe that country as first-class pastoral country. Speaking generally it is all pastoral country, pretty well, between here and Coonamble. It is similar country out towards the Bogan, except that it is rather more heavily timbered. It is equally good grazing country. I refer to the land on this side of the Bogan. On the other side of the Bogan it is altogether different. Speaking of the country between Warren and Coonamble, I think that men with moderate holdings—say, 2,560 acres—would be able to make a very good living. For sheep farming, it would be better to have a larger area, say, not less than 5,000 acres. Still, I think a holding of 2,500 acres would support a family. In all that country they can fatten, which is an advantage.

Mr. E. K. Rutledge. 12 May, 1896.

To Mr. Wright: If the leasehold areas were thrown open I am certain they would be taken up at once, although perhaps it may be against my interests to say so.

To the Chairman: My experience so far has been that whenever land has been thrown open it has been eagerly seized. None of the resumed area remains on my holding. Every acre has been taken up all round Nevertire.

Mr. George Reynolds, Hotelkeeper, Nevertire, sworn, and examined:—

To Mr. Hassall: I am an hotelkeeper at Nevertire, where I have resided for the last twelve years. I have been practically all my life in the interior of the colony, and can form a good idea of the character of land suitable for settlement. I have travelled a good deal over the country between here and the Barwon. I have been backwards and forwards between here and Moree. My opinion with regard to the country beyond Warren, embracing the districts of Mara Creek, Macquarie River, the Marthaguy, the Merri Merri, and the Castlereagh, is that it is really good country—first-class fattening country. A man with some 5,000 or 10,000 acres of land in that country would be able to live comfortably, and rear a family. The bulk of the traffic to Nevertire comes from the Marthaguy, the Merri Merri, and Brewin, and away back from the Barwon. All this traffic has to cross the Macquarie River at Warren. It naturally converges there, and then has to traverse the road to Nevertire. As a practical drover, my opinion of the road between here and Warren is that it is very bad in wet weather. If I were droving stock, and there were a trucking station at Warren, I should prefer to truck my stock there rather than bring them on to Nevertire. The advantage of being able to give the stock a drink of pure water before they started on a long train journey would far more than counterbalance the cost of driving them over the 12½ miles between Warren and Nevertire. The advantage of trucking them at Warren would be equal to a saving of 2s. per head, because, besides being fed and watered, they would be placed in the trucks clean, while if they travelled along the road through the mud in wet weather, by the time they got to Sydney, carrying the mud, as they would do, into the trucks, their condition would be very much deteriorated. The value of the fleeces would be affected as well as that of the stock. I think that the people in the great scope of country beyond Warren have some right to be considered in this matter, and that if reasonable grounds can be shown, the railway might be extended from Nevertire to Warren. As a business man at Nevertire, I cannot state any objections to the proposal.

Mr. G. Reynolds. 12 May, 1896.

To Mr. Wright: I question whether the railway would really pay at the present time. I do not think the people would object to pay the rates mentioned by the Railway Commissioners, namely, 4s. per ton for goods, 2s. a head for passengers, 2s. 6d. a ton for coal, and 2s. 6d. a truck for stock. I do not think the carriers would compete with the railway at those prices.

Mr. Walter Butler, Manager, Wright, Heaton, & Co., Nevertire, sworn, and examined:—

To Mr. Wright: I am manager at Nevertire for Wright, Heaton, & Co., and I have been here for nearly eleven years. I know the country pretty well. I am thoroughly impartial as regards the proposed railway, as it will not effect me either personally or as a business man. I hardly think the railway would pay if constructed, on account of the short length of the line. No doubt the traffic would increase every year, and probably trade would come to the terminus at Warren, which does not come here at present. Of the large quantity of goods, stock, and wool put on the railway line at Nevertire, I think that about 85 per cent. comes through Warren, the remainder being divided between Nevertire and the district on the Bogan side. I think that the rates which the Railway Commissioners propose to charge, if the railway is constructed, and which they estimate will pay working expenses and interest, and still leave a margin of profit, would be advantageous to the people in the Warren district, who, at present, pay 15s. and £1 a ton for road carriage. It would also be an advantage to the people beyond Warren towards Coonamble. Of late years a great deal of the traffic that used to go to Dubbo is being diverted, and it would be a great advantage to these people in the Coonamble district, notably Bullagreen, to have a railway at Warren. The lowest rate charged for carriage upon the road between Nevertire and Warren is about 15s., and the maximum rate is £1. When the road has been very bad we have paid as high as £3 a ton. I have known the teams when the road was exceedingly bad to take seven or eight days on the trip. This was to a great extent caused by a flood at Sandy Creek. There was no bridge there at the time, and the teams were stopped by the water. As to whether the trade from the north, north-east, and north-west would increase if the railway were constructed I do not think there would be much more traffic. The only difference would be that the little traffic now being taken into Trangie might come to Warren. I think the maximum traffic which could be obtained with the present population is already reached. The country around Warren and beyond is all good country. If it were all thrown open, I am sure it would be taken up. If the railway were constructed and the country opened there would be a larger population and consequently a greater amount of produce to be carried. I think Warren would be a very suitable depôt for freezing and boiling-down works. There is in the district a number of squatters comparatively wealthy, and

Mr. W. Butler. 12 May, 1896.

Mr. W. Butler. 12 May, 1896.

and I think it would be to their interest to contribute towards the erection of such works, as has been done in other parts of the colony. We do a little stock trucking; in dry times we have complaints from the drovers about the road. In wet times they do not complain so much about the road being bad as about the want of feed and water, particularly the latter. The water at Nevertire is bad, but it is not so bad now as it used to be. Having to drive the sheep into the Government tank and the difficulty to get them to drink at the troughs are occasionally subjects of complaint. When the burrs have been bad on the stock route, I have noticed that the sheep coming here have been very burry. On the road between Nevertire and Warren, the burrs are pretty bad at the present time, and they were last year; but there are years in which they disappear altogether. When sheep come in very burry the wool is injured. If a railway were constructed, I think all the stock would be trucked at Warren. The railway there would catch pretty well all the trade; but at times when there might be a congestion of wool traffic at Warren, there would be a possibility of the the teams running through to Nevertire when the roads were good, getting their wool quickly off, and returning again to Nevertire where the feed would be better. There are no good roads from here leading out to the Bogan, and there is no possibility of making good roads. The reason why a good deal of the Bogan traffic is diverted from Nevertire is because there has been no bridge here. One has now been built in the neighbourhood, and probably more trade will come in from that side than previously. It is because of the bridge over the Macquarie that so much traffic concentrates at Warren.

Mr. Robert MacRae, Manager, Permewan, Wright, & Co., Nevertire, sworn, and examined:—

Mr. R. MacRae. 12 May, 1896.

To Mr. Hassall: I am manager at Nevertire for Permewan, Wright, & Co., forwarding agents. I know a good deal about the Coonamble district and the stations there. I should call that country first-class pastoral country. It is very much like the Moree district, and is suitable for closer settlement. Whatever land may be available there for selection, in my opinion, will be rapidly taken up. At present it is taken up as fast as it is thrown open. There is practically a rush for land. Additional settlement would undoubtedly increase the traffic. There are a lot of good sound selectors in the district beyond Warren on the Coonamble side. The settlement that takes place undoubtedly increases the productiveness of the land, and although settlers may take up station land when it is made available, the number of stock in the district increases. The effect of selectors going upon pastoral country is to increase the quantity of stock, and the productiveness of the soil. Knowing the country pretty well, I look upon it as a very sound district and the people are in a fairly good position. I find no difficulty with regard to payment for carriage and charges, and regard them all as pretty sound men, considering the times. I think if the railway goes to Warren it will have an effect on the Dubbo traffic. It is very likely that some of the goods which go to Dubbo will then come through here *via* Warren. For instance, wool that goes to Dubbo will come to Warren from the Coonamble district. There is no doubt that Warren, with its natural advantages in the shape of a supply of pure water and a large commonage, is a more suitable place for a large trucking station than Nevertire could ever hope to be. The furthest station beyond Warren from which wool is brought is about 130 miles from here. Wool comes from one station very near Walgett. The station is nearer to the railway at Narrabri, but the wool is sent this way because there is a better road. I think it would be beneficial to the district to have a railway constructed, and to pay the following charges:—goods, 4s. per ton; wool, 2s. 6d. per ton; live stock, 2s. 6d. per truck; and passengers, 2s. per head. These represent a very big reduction when compared with the prices now paid by coach and team. I think the people would be willing to pay these rates, and that it would be to their advantage to do so. The rate of carriage by team from Nevertire to Walgett is about 15s. a ton, and about twelve months ago it was £1 a ton. As to whether, being a manager of a firm of forwarding agents, I shall have any objection to the proposed railway from Nevertire to Warren, I am of course only a servant of the firm, but I do not think it would make much difference to them; they would move on if the line went to Warren. As a practical man, having to deal with the forwarding and loading of goods, trucking and so on, I think that Warren is a more suitable place than Nevertire at which to carry on these operations, by reason of the natural advantages it possesses, and the avoidance of the bad road between the two places.

Mr. Patrick Lyons, Blacksmith, Nevertire, sworn, and examined:—

Mr. P. Lyons. 12 May, 1896.

To the Chairman: I am a blacksmith carrying on business at Nevertire. I do not think a railway between Nevertire and Warren is desirable as far as the people of Nevertire are concerned, and I do not think it would pay. I believe that for about eight months of the year two vans would do all the work between here and Warren. The wool season would be the only time a railway would pay. Three or four teams have been waiting here for a week now, and would be only too glad if they could get loading. They are going back empty. There is not enough loading going to Warren to keep the teams going. Any resident of Nevertire knows that two vans would carry all the Warren loading. I have not gone into the question of the actual tonnage; I merely speak of what I see, and in a general sense. I do not believe that an income of £2,500 a year, as estimated, would be realised from the carriage of goods, stock, and passengers on the proposed railway. I cannot tell what the wool traffic would realise, but apart from the wool the railway might pay, perhaps, for three months in the year, but not more. I believe it is the case that of the wool and stock put on the railway at Nevertire between 80 and 90 per cent. comes through Warren. I recollect the time referred to when a price as high as £3 a ton was paid for the carriage of goods by road between Nevertire and Warren; but I do not know that even the railway could have taken the goods on that occasion as the creek must have been 2 miles wide. That was very exceptional. Most of the carriers are very glad to take loading at 9s.—from 9s. to 15s.

To Mr. Wright: I am aware that it is only proposed to charge 4s. a ton for goods carried on the railway. Several carriers resident in the town say that if the railway were in existence they would bring their wool through to Nevertire and not unload at Warren. A good many of the carriers have their homes here, and they would come through with their wool. I admit that if the railway were extended to Warren it would injure my business a great deal and property at Nevertire would be worth very little. But apart from that the railway could not pay. I have been a resident of Nevertire for more than 8 years, and I can form a pretty good idea on the subject. I have heard many expressions of opinion as to the railway. The coach proprietors tell me they cannot make a living with the few passengers they take, and if this is so how could a railway possibly pay. Three coaches are about the average, and they often go 4 or 5 days backwards and forwards without a passenger. It is true that they keep on, but they only make a bare living, and many of them cannot pay their debts. On an average from four to five coaches run daily.

Mr. James Martin Oriel, Carrier, near Warren, sworn, and examined:—

Mr. J. M. Oriel. 12 May, 1896.

To Mr. Wright: With regard to the proposal to construct a railway to Warren, I think it is a very bad thing for this part. It will knock a lot of carriers and others out of employment, and I cannot see how the railway can pay. It will do Warren a lot of harm, as I do not think it will stay there. The storekeepers at Warren can now get their goods carried by teams at 10s. a ton. I am not aware that goods are being carried at that rate, but carriers have offered to do it. In winter time carriers could make a living at 10s. a ton. I can always do better in the winter time, when it is wet, than in the dry seasons. In winter time I do not get more than 15s. a ton, and I can do well at it. As a carrier, I am naturally opposed to anything that takes the bread out of my mouth. I think that the railway would be of no benefit to the people of Warren, or the people beyond. I hardly think it can be correct that, at the rates for carriage mentioned, the railway would be able to pay working expenses and interest, and have a profit besides. I do not think the estimate of 3,500 tons of goods in and out, apart from wool, between Warren and the outlying districts, would be realised. I know the country beyond Warren. It is all good pastoral country, and I consider it suitable for agriculture. If it is opened up, and a railway constructed to Warren, I do not think that the people are likely to go in for the cultivation of wheat. The land is good enough for the purpose, but my opinion is that if the railway goes through, it will drive all the people out of the country. The rate of carriage to Warren has never been, to my knowledge, less than 15s. Supposing there were no railway, and a storekeeper at Warren said, "I will give you so many loads of wheat, as much as you can do, if you bring my goods here for twelve months at 15s. a ton"—I would take a contract of that kind. Owing to the fact that the traffic is not constant, but that some weeks there is loading and some weeks none, we cannot do the work at as low rates as we should otherwise be able to do.

[One Plan.]

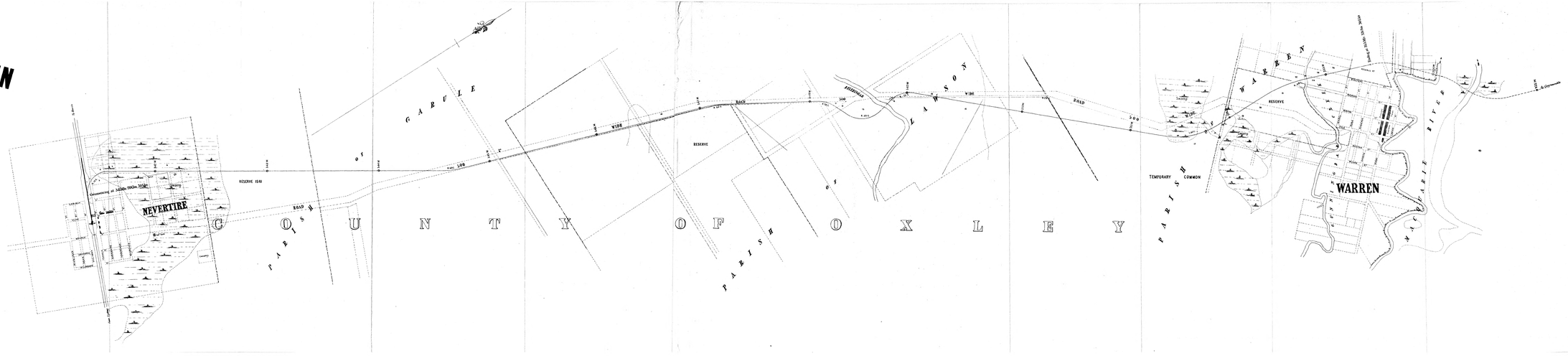
Sydney: Charles Potter, Government Printer.—1896.

NEVERTIRE TO WARREN RAILWAY

PARLIAMENTARY PLAN

Scale

Commencing at 341 Miles 20 Chains 50 Links and terminating at 353 Miles 35 Chains 50 Links being a distance of 12 Miles 15 Chains



1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE AND PLAN,

RELATING TO THE

PROPOSED RAILWAY FROM BERRIGAN TO FINLEY.

Presented to Parliament in accordance with the provisions of the Public Works Act, 51 Vic. No. 37.

Printed under No. 16 *Report from Printing Committee,* 3 *September,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

[2*s*.] *154—*a* 1896.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable Frederick Thomas Humphery, Vice-Chairman.
The Honorable James Hoskins.
The Honorable Charles James Roberts, C.M.G.
The Honorable William Joseph Trickett.
The Honorable Daniel O'Connor.

LEGISLATIVE ASSEMBLY.

Thomas Thomson Ewing, Esquire, Chairman.
Henry Clarke, Esquire.
Charles Alfred Lee, Esquire.
John Lionel Fegan, Esquire.
Thomas Henry Hassall, Esquire.
George Black, Esquire.
Francis Augustus Wright, Esquire.
Frank Farnell, Esquire.

MEMBERS OF THE SECTIONAL COMMITTEE.

Frank Farnell, Esquire, Chairman.
The Honorable Daniel O'Connor.
George Black, Esquire.

GENERAL INDEX.

LIST OF WITNESSES.

[*Examined by the Committee.*]

[*Examined by the Sectional Committee.*]

PLAN.

* Omitted by Printing Committee.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

PROPOSED RAILWAY FROM BERRIGAN TO FINLEY.

REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, and the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of railway from Berrigan to Finley," have, after due inquiry, resolved that it is expedient the proposed railway should be constructed, at a cost not exceeding £2,000 per mile; and, in accordance with the provision of sub-section (IV), of clause 13, of the Public Works Act, report their resolution to the Legislative Assembly:—

Departmental statement.

1. The proposed extension of the railway from Berrigan to Finley appears to have been first brought into prominence in October, 1894, when a communication from the Murray Hut Progress Committee, urging the necessity for railway extension to that place, was forwarded to the Department of Public Works, and the Railway Commissioners being engaged in considering the question of railway extension in the vicinity, the matter was referred to them for consideration. In December following the Railway Commissioners forwarded to the Minister for Public Works a memorandum with reference to the subject; subsequently instructions were given by the Minister for the preparation of a revised estimate of the cost of the railway. In this estimate, submitted by the Engineer-in-Chief for Railway Construction, the cost was stated at an average of £2,316 per mile. A proposal to extend the railway from Jerilderie to Berrigan being then under consideration, no further action was taken with regard to the suggested extension from Berrigan to Finley. Afterwards the construction of a line of railway connecting Jerilderie with Berrigan was commenced, and is now approaching completion. In April last the Minister instructed the Railway Commissioners to report upon the proposed extension to Finley. On the 8th May, a deputation, representing the residents of Finley and district, interviewed the Minister, urged that the extension be carried out, and submitted statistics in favour of the line, together with a statement showing, amongst other things, that in the space of about five years the area under cultivation in that district had increased from 3,930 acres to 34,156 acres. On the 28th of May the proposal was referred for the consideration of this Committee, the motion being as follows:—"That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of constructing a line of railway from Berrigan to Finley."

Official description.

2. The length of the proposed extension is 13 miles 50 chains. It will be a light railway, beginning at Berrigan, close to the termination of the Jerilderie to Berrigan line, now under construction, at 438 miles 78 chains from Sydney, and following generally along the main road, thus avoiding severance, to the proposed Government township of Finley, where it will end in reserve No. 16,389, in the parish of Finley. The line is on a dead flat throughout; grades, curves, and works generally are easy. There is no drainage to cross but what can be provided for by surface openings. The station work is considerable in proportion to length, and the country being closely settled numerous accommodation works are necessary. These, it is explained, keep up the mileage cost.

3.

Estimated cost.

3. The estimated cost of the railway is stated at £27,250, or an average of about £2,000 per mile, exclusive of land resumption and compensation.

Railway Commissioners' Report.

4. The Railway Commissioners report that the total annual cost of the proposed line—inclusive of interest at 3¼ per cent., maintenance, traffic, and locomotive expenses—will be £1,536; the estimate of traffic receipts amounts to £701. This shows an annual loss of £835. They acknowledge the fertility of the district which would be served by the extension, and state that local rates would be charged for the conveyance of traffic over the line. With reference to the question of land requisite for railway purposes, the Commissioners "advise that the railway be not made unless the whole of the necessary land is granted to the State free of cost." If this be done they recommend the construction of the line.

The Committee's inquiry.

5. In the course of their inquiry the Committee have examined the Engineer-in-Chief for Railway Construction, who fully explained the details of the proposed scheme; the Secretary to the Railway Commissioners; and the Railway Goods Superintendent. A Sectional Committee subsequently visited the district, and obtained all necessary local information.

Sectional Committee's Report.

6. The Sectional Committee report favourably upon the construction of the proposed railway. They state that Finley is the natural centre of a large tract of arable country, which may eventually become one of the most prosperous districts in New South Wales. The cost of road construction and maintenance would be very considerable, principally owing to the absence of suitable material, and, in their opinion, its necessities and prospects entitle it to railway communication with Sydney. The Report of the Sectional Committee further states that the Departmental estimate of the traffic has not been over-estimated; the returns from the carriage of wheat, with good seasons, are likely to be double the amount given by the Department. As large a quantity as 34 bushels to the acre has been reaped under favourable circumstances, while the average is stated to be about 17 bushels; and all the crops raised on an extensive area, of which Finley is the centre, with the exception of the amount consumed locally, would find their way over the railway from that township to Jerilderie. The stock from this district would also be carried on the railway. Although, under existing circumstances, the bulky supplies purchased in Sydney may be forwarded to the district by way of Melbourne, it is expected that when greater facilities are afforded to the inhabitants for trading direct with the metropolis, their goods will be sent overland from Sydney.

Route recommended by the Sectional Committee.

7. The surveyed route of the proposed line is generally well located. The Sectional Committee, however, believe that some expense in the matter of severance might be avoided, and the settlers better served, were a slight deviation made by not leaving the main road at the corner of Robertson's section—No. 68—but by following a straight line until reaching the border of Phipps' holding, and thence making the deviation through Phipps' second paddock to the fenced road.

District to be served.

8. The district to be served extends west from Finley towards Deniliquin, a distance of, approximately, 20 miles; east, towards Berrigan, a distance of about 5 miles; north, about 8 miles—and to the south it is reasonable to expect the grain traffic almost to Tocumwal on the Murray may be secured, if the produce be intended for consumption within the Colony. The soil within these limits may be generally described as a red loam, eminently suitable for the growth of cereals and fruit, and may be regarded as comparing favourably with any other wheat-producing locality in the Colony. The rainfall is generally sufficient for farming operations. The area under wheat is being rapidly extended, and the cheaper freight, which will be possible if the railway be extended to Finley, will have the effect of still further stimulating agricultural occupation.

Traffic on proposed line.

Traffic on proposed line.

9. If it were possible to obtain all the produce from so fertile a district the volume of traffic would be extremely satisfactory. The proposed railway would, however, have as competitors :—

1. Road Carriage to Berrigan.
2. Road Carriage to Jerilderie.
3. The Victorian Railway System at Yarroweyah.
4. The Deniliquin-Moama Line.

1. Road Carriage to Berrigan.

The rate of road carriage to Berrigan from Finley is estimated by residents to be about 6s. per ton.

The railway rate is to be 1s. 6d. per ton, a saving between the termini of 4s. 6d. per ton. The trade would split at that point where the cost of road carriage to Finley was within 1s. 6d. per ton of that to Berrigan, a distance which the Sectional Committee estimate at about 5 miles east of Finley, if a through rate were charged and no intermediate stations used. Produce would, however, be placed on the railway at intermediate stations to within such a distance of Berrigan as represented road carriage to the amount of 1s. 6d.

2. Road Carriage to Jerilderie.

The cost of road carriage to Jerilderie in fine weather is about 9s. per ton, but during wet seasons traffic is almost suspended. The through freight from Finley to Jerilderie by the proposed railway will be 4s. per ton, a saving of about 5s. between these terminal points.

Traffic will split at that point where it ceases to be 4s. per ton cheaper to cart to Finley than to Jerilderie. That point the Sectional Committee estimate would be about 8 miles north from the former place.

3. The Victorian Railway System at Yarroweyah.

The rebate line laid down by the Victorian authorities passes approximately from Jingellic west in the direction of Savernake, cutting the Jerilderie-Berrigan line about midway. To the north of this line there is a rebate granted on the Victorian railway system of 46 per cent. which applies to all freights except agricultural produce. The line under consideration is mainly to provide for the carriage of farming produce, and since the country to be served is mostly south of the rebate line, it will be sufficient to compare the ordinary charges upon the New South Wales and Victorian systems.

The freight from Yarroweyah to Melbourne per ton of wheat is 15s., from Finley to Sydney 16s. 10d., being an advantage to the Victorian system of 1s. 10d. per ton. The road carriage to Yarroweyah from Finley is stated to be about 12s. 6d. per ton, thus (without taking into consideration the cost of conveyance by sea from Melbourne to Sydney, if the produce be consigned to that market,) it is reasonable to presume that an extension to Finley would, under present conditions, command all the grain traffic of the district. These remarks apply to produce seeking Melbourne for export.

The freight from Wagga Wagga to Sydney—a distance of 309 miles—for wool is £2 18s. 6d. per ton, that amount being greater than the rate from Yarroweyah to Melbourne. The distance from Wagga Wagga to Finley would be about 140 miles—thus wool freight could only be obtained by means of a special agreement at a rate considerably less than the prevailing charge for a like distance in other parts of this Colony.

The rate for general goods is greater to Jerilderie from Sydney than from Melbourne to Yarroweyah, but, if station supplies under the truck-load system be also considered, the cost of the goods most likely to make up return freight more nearly approximates.

4. The Deniliquin-Moama Line.

The competition from the Deniliquin-Moama line will be felt about 20 miles west from Finley. Beyond this point it appears probable that all produce for export will pass in bond through Victoria. Wool and all return supplies for the district outside the limit indicated are likely to use the Victorian railways in preference to those of New South Wales.

Estimated traffic on line Jerilderie to Berrigan is likely to be realised.

10. The evidence given before the Sectional Committee on the proposed railway from Jerilderie to Berrigan was to the effect that the Departmental estimate of the wheat traffic was correct, and that increased areas would be brought under cultivation if that line were sanctioned. The evidence given before the Sectional Committee on the proposed extension from Berrigan to Finley, fully bears out that expectation, and there is reason to suppose that the increased earnings on the Jerilderie-Berrigan line will largely compensate for the estimated deficiency on that to Finley.

Ultimate development of district.

11. This line was submitted to the Committee simply as a local line to furnish the district, of which Finley is the centre, with cheap transport, but all works of the kind must be regarded as forming portion of a complete scheme. A direct line from Jerilderie to Deniliquin would be located for the greater part of its distance in plain country, much inferior for agricultural occupation to the timbered belt known as the Murray Fringe. The line from Jerilderie to Berrigan conducts the railway system by the shortest route out of the plain country into the timbered loamy lands where farming operations are certain to succeed; thence turning westerly towards Deniliquin *via* Finley good land will be traversed till within a few miles of that place; this line, therefore, forms part of a line which, after the completion of such arrangements as this Colony deems necessary, will join the two systems at Moama; towards the east the Committee believe suitable land for settlement extends in large belts to The Rock. Thus the line from Berrigan to Finley will eventually form part of a complete system passing through one of the best grain-producing districts in the Colony, of which for the present the Berrigan-Jerilderie line forms the easiest outlet; but it appears probable that eventually the Berrigan-Jerilderie line will be but a connection between The Rock-Moama line and the railway from Jerilderie to Narrandera. It must be understood that the Committee do not recommend these extensions at present, but state what appears to be the probable location of a line for the proper development of this part of the Colony, in order that it may be clear that the construction of the line under consideration is not antagonistic thereto.

Land resumption.

12. The amount of land required for the railway will not in any case be very large. The recommendation of the Railway Commissioners that the land requisite for railway purposes should be given to the Government free of charge, has received attention from both the Committee as a whole and the Sectional Committee. Certain owners of property at the Berrigan end of the projected line will require to be compensated, not only for the land which may be resumed but also for damage caused by severance. As a result of personal examination by the Sectional Committee it has been ascertained that the majority of the property-holders on both sides of the proposed railway are prepared to give their land either free of cost to the State, or in return for areas of corresponding value, to be taken from Crown lands abutting on their holdings. The probable total amount required as compensation is not likely to be large, and the Committee are of opinion that the line should not be constructed unless all the land required for railway purposes be conveyed free of cost to the Government.

Resolution of the Committee.

13. The resolution passed by the Committee is shown in the following extract from their Minutes of Proceedings:—

"The Committee further considered the proposed Railway from Berrigan to Finley.

"Mr. Black moved,—

'That it is expedient the proposed Railway from Berrigan to Finley, as referred to the Committee by the Legislative Assembly, be carried out.'

"Mr. O'Connor seconded the motion.

"Mr. Humphery moved,—

'That the motion be amended by the omission of all the words after the word 'expedient,' with a view to the insertion of the following words: 'that the decision as to the proposed Railway from Berrigan to Finley, as referred to the Committee by the Legislative Assembly, be deferred for twelve months.'

"Mr. Wright seconded the amendment.

Upon

Upon the question "That the words proposed to be omitted stand part of the motion," the Committee divided, as follows:—

Ayes, 8.	Noes, 3.
Mr. Ewing.	Mr. Humphery.
Mr. Roberts.	Mr. Trickett.
Mr. O'Connor.	Mr. Wright.
Mr. Clarke.	
Mr. Lee.	
Mr. Fegan.	
Mr. Hassall.	
Mr. Black.	

"The amendment was therefore negatived.

"The original question having (with concurrence) been amended by the addition of the words: 'at a cost not exceeding £2,000 per mile'—was then passed on the following division:—

Ayes, 8.	Noes, 3.
Mr. Ewing.	Mr. Humphery.
Mr. Roberts.	Mr. Trickett.
Mr. O'Connor.	Mr. Wright.
Mr. Clarke.	
Mr. Lee.	
Mr. Fegan.	
Mr. Hassall.	
Mr. Black.	

THOS. EWING,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 19 August, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

RAILWAY FROM BERRIGAN TO FINLEY.

FRIDAY, 5 *JUNE*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee proceeded to consider the proposed Railway from Berrigan to Finley.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and examined:—

1. *Chairman.*] You produce a statement? Yes; I have a short statement. I now hand in, compilation parish maps, showing the line; a plan drawn to a 10-chains scale; a section of the line; and the Book of Reference. H. Deane, Esq. 5 June, 1896.

2. Will you read your statement? Yes; it is as follows:—

Railway Extension from Berrigan to Finley (Murray Hut).

This line appears to have been first brought under notice in the year 1894. On the 2nd October of that year, Mr. Hayes, M.P., addressed a letter to the Department on the subject, and enclosed a communication from the Murray Hut Progress Committee, in which the necessity for railway extension to that place was strongly urged. As the Railway Commissioners were dealing with the question of railway extension in that neighbourhood at the time, the matter was referred for their consideration.

On the 3rd December, 1894, the Commissioners forwarded to the Minister a memorandum on the subject, in which they stated they had inspected the country between the two places, and as there was so much cultivation in the district, and the construction of the suggested line would also influence traffic which now finds its way to Victoria, they advised that a careful estimate should be prepared of the cost of an extension from Berrigan to Finley. They added, that some of the landowners had already expressed their willingness to give the land, and that they had informed a deputation which waited upon them that they would advise the Government to make it a *sine qua non* that all the land necessary should be conveyed free of cost to the Government if the extension were entertained.

Instructions were then given by the Minister for a revised estimate to be prepared. This was shortly afterwards submitted by the Engineer-in-Chief, the cost being then put down at an average of £2,316 4s. per mile, which has since been reduced to £2,000 per mile.

No further action appears to have been taken in the matter at this time, the proposal to extend the railway from Jerilderie to Berrigan being under consideration. The construction of this line was afterwards undertaken, and is now near completion.

The Minister had the extension to Finley again before him in April last, and gave instructions that the Railway Commissioners should be asked to submit their report upon the proposal in accordance with the Public Works Act. The report was submitted on the 12th May, and is as follows:—

Office of the Railway Commissioners of New South Wales, Sydney, 12 May, 1896.

Proposed Railway Line, Berrigan to Finley—13 miles 50 chains.

In accordance with the provisions of the "Public Works Act of 1888," section 13, we beg to report as under:—

Cost of Construction—		
The Engineer-in-Chief for Construction estimates the cost of construction of a single line of light railway (exclusive of land and compensation) at about		£27,250
Annual Cost—		
Capital expenditure at 3¼ per cent	£886	
Estimated cost of maintaining permanent way, and for traffic and locomotive expenses	650	
Total annual cost		1,536
Traffic Estimate—		
Passengers, parcels, and mails	196	
Goods, live stock, and agricultural produce	505	
Total annual revenue		701

The

H. Deane, Esq.

5 June, 1896.

The district is very fertile, and similar in character to that served by the line from Jerilderie to Berrigan, at the present time under construction, and there is no doubt that with better facilities in connection with the transit of produce considerable development in the amount of land under cultivation will take place.

We would propose to charge local rates for the conveyance of traffic over this section of the line; but even with these local rates a very considerable reduction in the present rates of cartage would be effected.

When in the district some time ago, we were told that but little difficulty would be experienced in obtaining the necessary land free of cost for the construction of the line, and we advise that the railway be not made unless the whole of the necessary land is granted to the State free of cost. If this is done we recommend the construction of the line.

A copy of a memorandum we made in December, 1894, on the subject of this line, is attached hereto.

The Common Seal of the Railway Commissioners of New South Wales was hereunto affixed this twelfth day of May, one thousand eight hundred and ninety-six, in the presence of,—
H. McLACHLAN.

E. M. G. EDDY, Chief Commissioner.
CHARLES OLIVER, Commissioner.
W. M. FEHON, Commissioner.

Office of the Railway Commissioners of New South Wales, Sydney, 3 December, 1894.

Application for Railway Communication to Finley (late Murray Hut).

When at Berrigan recently we took the opportunity of inspecting the country between Berrigan and Finley, and as there is so much cultivation in the district, and as the construction of the suggested line would influence traffic that now finds its way through Victoria, we would advise that a careful estimate should be prepared, showing the cost of an extension of the proposed Berrigan line to Finley.

The Commissioners are of opinion that the Acting Engineer-in-Chief for Railway Construction would be able to submit a much lower estimate than £30,000 upon careful examination of the country, as this line might be made in the cheapest possible way and be of less cost than £2,000 per mile.

Some of the landowners have already expressed their willingness to give the necessary land, and we intimated to the deputation that waited upon us that we should advise the Government to make it a *sine qua non* that all the land necessary should be conveyed free to the Government, if such an extension were entertained.

These views can be forwarded for the information of the Hon. the Minister for Public Works.

E. M. G. E.
W. M. F.
C. O.

On the 8th May, Mr. Hayes, M.P., introduced a deputation to the Minister, representing the residents of Finley and district, to urge that the extension be carried out. They submitted statistics in favour of the line, and a statement showing, amongst other things, that while about five years ago there were but 3,930 acres under cultivation in the district there were now no less than 34,156 acres under cultivation.

The Minister informed them that he had already taken steps to obtain all the information possible about the line, and expressed himself in favour of its construction if it could be done at a reasonable cost. On the 28th of May the proposal was referred for the consideration of the Public Works Committee, the motion being as follows:—"That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of constructing a line of railway from Berrigan to Finley."

The official description of the line is as follows:—

Berrigan to Finley Railway.

Length, 13 miles 50 chains. Estimated cost, £27,250, or £2,000 per mile, exclusive of land and compensation.

This proposed light railway begins at Berrigan, close to the termination of the Jerilderie to Berrigan line, now under construction, at 438 miles 78 chains from Sydney, and follows generally along the main road, thus avoiding severance, to the proposed Government township of Finley, where it ends in reserve No. 16,389, in the parish of Finley.

The line is on a dead flat throughout, so that grades, curves, and works generally are easy. There is no drainage to cross but what can be provided for by surface openings, but the station work is considerable in proportion to length, and the country being closely settled numerous accommodation works are necessary. These keep up the mileage cost.

Berrigan to Finley Railway.

REVISED estimated cost of a single line of railway, 13 miles 50 chains in length, with 60-lb. rails.

Description.	Estimated cost.	Average per mile.
	£ s. d.	£
Earthworks	1,635 0 0	120
Small timber openings	540 0 0	40
Level crossings, fencing, and road diversions	1,240 0 0	91
Permanent-way materials	8,597 7 6	631
Freight	2,640 10 6	194
Platelaying, at 1s., £88 Ballasting, ⅛ at 3s., 44 Sleepers, at 3s., 360 } £492 per mile	6,703 10 0	492
Station works, including sidings	762 0 0	56
Station buildings, passenger building, "C" £250; waiting-shed, £125; goods-shed and platform, £400; loading banks, £200; grain-shed, £250; station-master's house, £300, 20-ton weighbridge, £275	1,800 0 0	132
Telegraph	100 0 0	7
Water supply	500 0 0	37
	£24,518 8 0	
Engineering and contingencies, about 11 per cent.	2,731 12 0	200
Total cost	£27,250 0 0	
Average cost per mile		£2,000 0 0

19 May, 1896.

ROBERT HICKSON,
Under Secretary for Public Works and Commissioner for Roads.

3.

H. Deane, Esq. 5 June, 1896.

3. *Mr. Trickett.*] What is the exact length of this line? Thirteen miles and 50 chains.
4. How does the country between Berrigan and Finley compare with the country between Berrigan and Jerilderie? It is better in a way; the country is drier. There are are no flats or hollows filled with water to encounter, and the waterways will consequently be somewhat less. Otherwise, it would have been impossible to have brought the line down to the present estimate.
5. Are there any creeks to cross? Nothing of importance.
6. The culverts, drains, and waterways will be considerably fewer, and less expensive than those on the Jerilderie-Berrigan line? Yes.
7. That accounts for the lower estimated cost? Yes; also, the earthworks are less.
8. In what way are they less? They are less, because there is less in the way of small embankments over the swamps.
9. What height would the earthworks be? From 8 inches to a foot.
10. Have you been in that country yourself? I have only been to Berrigan. I have not been to Finley, so I am relying on the reports of the officers, but I think they are quite satisfactory.
11. You say the earthworks will be from 8 inches to a foot;—will that be only earth or gravel mixed with it? That will be the embankment alone. I am only providing for a small portion of ballast on the line.
12. Will that be generally used, or only in portions? Only in portions, and chiefly at the stations.
13. Will that be procurable in the locality? Yes. I think the material that is obtainable at Berrigan itself—some decayed granite, which is used for roads there—will answer very well for the purpose—a good deal of it; if not, material could be brought down from the Narrandera to Jerilderie line, as it is proposed to bring the other ballast.
14. And the character of the sleepers will be the same as those on the line from Jerilderie to Berrigan? Yes; they will probably be red gum.
15. Can they be got as cheaply now as they could be when you got the tender for the Jerilderie to Berrigan line? I think about the same.
16. Have you any portion of the line from Jerilderie to Berrigan completed? No; there is none actually completed, but the earthworks are pretty well ahead.
17. Are you in a position to say whether that work will be carried out for a less amount than that which was estimated when we passed that line? I think that the works that were estimated for will be carried out for less; at any rate, they will be well within the mark. But, in connection with another inquiry a few days ago, I pointed out that the cost of the rails would be higher than was estimated on account of the inability of the Railway Commissioners to provide second-hand rails. Then, also, there will be the shifting of the fence, which was not provided for in the original estimate. But I have provided in this estimate for everything that I consider will be required, keeping everything as low as possible.
18. The average cost, £2,000 a mile, is the lowest that you have yet fixed, is it not? Yes, it is the lowest. I think this is without exception the best bit of country we have had. In connection with a remark made in the statement, I should like to point out that the cost of station works and buildings is high in proportion to the total estimate. It will be seen that, without adding engineering and contingencies, the station works and buildings amount to about £2,562. I have gone into the matter with the Railway Commissioners, and at the terminus they require very similar accommodation to that provided at Berrigan, the conditions being almost exactly the same.
19. You mean, by that, that Finley will be quite as much a trucking centre as Berrigan? Yes.
20. There is an amount here for freight—£2,640 10s. 6d.—is that not rather a large amount? Not at all. It is only taken at 1d. per ton per mile the whole distance from Granville. It amounts to a good deal, because the distance is so great.
21. Do they charge the ordinary rates for the material required? No; it is really a reduced rate.
22. You mean less than they charge to the ordinary public? Yes.
23. Do you know how much less is charged by the Railway Department than to the public? I believe that in the schedule of rates the charge is 2d. per ton per mile for rails and material of that kind, but the Commissioners will charge us 1d.
24. When we were considering the Jerilderie to Berrigan railway we found that the expenditure and interest were pretty well balanced by the probable revenue to be derived from the line, whereas in this case, according to the figures, the total annual cost is put down at £1,536, and the total estimated revenue at £701, showing a loss of £835 a year;—in the face of that, do you suggest that that revenue is likely to increase? I think the tendency of the Railway Commissioners' report is to show that they consider it will be increased, but perhaps I might suggest that the Secretary to the Railway Commissioners should be questioned on that point.
25. Looking at the Book of Reference, I see that this line of railway will pass very largely through the properties of private owners? Yes.
26. The statement that you read indicates that the land should be given free;—do you know that any steps have been taken in the direction of getting that land free? I do not think that any further steps have been taken beyond what the Railway Commissioners took at the time. I think there would be some difficulty about the owners of land in the immediate neighbourhood of Berrigan, because they would not be benefited by the construction of this portion of line, but it may be possible to make some arrangement to give them some reserved roads in exchange.
27. With regard to the termination of this line at Finley, does it go up to the town or fall short of it? It goes right into the town of Finley and terminates at the firm red line on the map where the figures "66" are. It will be seen from the tracing that it terminates on the northern side of Osborne-street.
28. Is that Crown land? Reserves.
29. The line, as shown on the plan, appears to run right through the town—is that necessary? It is brought half-way into the town—up to Osborne-street—so as to terminate on reserves there, in the township.
30. In this inquiry it appears to me to be rather important for us to know whether it is contemplated to take the line further on than Finley in an easterly direction;—if this line be constructed do you know if there is any intention of that kind? I believe not. A survey has been made down to Tocumwal—that is all I can say.
31. That is in a southerly direction? Yes.
32. Nothing has been thought out with regard to taking it in a westerly direction;—can you tell us whether anything has been thought out as to taking it an easterly direction, from Berrigan towards The Rock?

H. Deane, Esq. 5 June, 1896.

Rock? A survey has been made right through from The Rock to Finley. This line makes use of a portion of the survey from The Rock to Murray Hut or Finley.

33. Then if there is any probability of a line from The Rock right through to Finley being constructed, would it not seem rather as if a mistake is made in making the line from Narrandera to Jerilderie, Berrigan, and Finley? A portion of that line may possibly be contemplated; not the whole. I have been going into the question of survey and estimate for a portion of it.

34. If we are going at any time to construct a line from The Rock right through to Finley that line and the line from Narrandera to Jerilderie, Berrigan, and Finley will be competing lines? An extension from Berrigan to Finley will not, of course, affect either question.

35. That will always come in? Yes.

36. When the line from Jerilderie to Berrigan was submitted to this Committee, would it not have been possible to have adopted a kind of intermediate course that would have suited both Berrigan and Finley without making the line in the very peculiar formation as it appears on the plan? My instructions of course were to prepare the survey to Berrigan. The Finley line was, I think, really an afterthought. A line could have been carried to Finley direct. There is a travelling stock route running down all the way.

37. Looking at the map, do you not think that it shows that rather an injudicious route has been taken? I do not know. If you want to serve both Berrigan and Finley it may make very little difference. Straight lines connecting Jerilderie, Berrigan, and Finley form an isosceles triangle. Going to Finley first and then to Berrigan would be the same as going to Berrigan first and then to Finley.

38. When we were considering the line from Jerilderie to Berrigan the evidence was that that line would serve the people right up to Finley, or within a mile or two of Finley; at page 9 the report says,—"The area around Berrigan from which traffic will be drawn, the Railway Goods Superintendent describes as between Savernake in the south-east, the border of Barooga in the south, and a point within three or four miles of Murray Hut or Finley in the west. The information collected by the Goods Superintendent appears to have been carefully obtained with a desire to under-estimate rather than to over-estimate the capability of the district." Seeing that the Berrigan line is estimated to serve the people living within three or four miles of Finley, it would seem to me that an intermediate line between the two places would have been a far more desirable one than this irregularly-shaped line which is about to be constructed. So far as you are concerned you say it is a line of railway that could be easily constructed and at the lowest possible rate that has yet been estimated? Yes.

39. I suppose in this estimate of yours you do not have any intermediate stations at all between the two places? I have provided for one intermediate station.

40. That will be about half way? Yes.

41. Can you tell us what the cost of that station will be? £125—it is a waiting-shed.

42. And a platform? No; there are passenger landings—only just a wooden kerb round. It is very inexpensive device.

43. Can you tell us where that would be? The Railway Commissioners will have to locate the position. It will be about half way, I expect.

44. In addition to the waiting-shed will there be a goods-shed and platform? Not there; they will be at Finley.

45. I notice that in the official description of the line this statement is made "The line is on a dead flat throughout, so that grades, curves, and works generally are easy. There is no drainage to cross but what can be provided for by surface openings, but the station work is considerable in proportion to length, and the country being closely settled numerous accommodation works are necessary. These keep up the mileage cost"? That means crossings and gates.

46. Is the line to be fenced? It will follow the road, so we shall have to fence it on one side. The road is not wide enough to take the line as well. A good deal of the road is only a chain wide, so we shall require to have another chain alongside of that, and shall have to put up a fence, or shift the road fence.

47. I see you estimate the cost of the sleepers at 3s.? Yes.

48. Will those be only rough sleepers—what they call half-round sleepers? They will be red-gum sawn sleepers. On the line at present under construction from Jerilderie to Berrigan, Smith and Finlayson are bringing ironbark sleepers a long distance. They found it very difficult to get all the red-gum sleepers in time.

49. What distance apart would you put the sleepers? They will be 14 to the 10-yards length—that is about 2 ft. 2 in. from centre to centre.

50. How does that compare with the distance on a metalled railway line? The older practice is to use 11 and 12 for the same length of rail. I am putting down 14 on all these new lines, and I believe it will be economical in maintenance, even if the line is afterwards ballasted.

51. Have you had any experience so far in any of the light lines which you have laid as to whether these sleepers laid on the made-up ground are sufficient for the purposes of the railway traffic—for instance, on the Moree line? The experience is not very complete. I may say that very recently there has been a good deal of rain there, and the line has not been in a very good condition over the black soil on the Moree railway. The contractors have been very careful, but I think that all those portions will have to be ballasted. The ballast was included in the estimate of the line.

52. But that hardly compares with this character of country? No. I think that each class of country will have to be dealt with on its own merits. There may be some classes of country where we may be able to avoid the use of ballast altogether. I hope so. I think that in the black soil country we shall always have to put in ballast; but in the red soil country we may be able to do without it. It depends on what condition the soil is in when it is wet—whether it is suitable for packing under the sleepers or not. If it is of a gritty character, even when wet, you may be able to use it for packing, but black soil gets so greasy and impalpable that it is of no use whatever for the purpose.

53. That lot of sleepers provided for the Moree railway cost 2s. 6d. each? Yes.

54. Could you not get these at the same price? The price for these includes adzing and putting them in the road.

55. They have to be prepared for the rail afterwards? Yes.

56. Would that make the cost up to about 3s.? That costs about 2d. or 3d. apiece. These red-gum sleepers are certainly more expensive than those round-top ironbark sleepers, because the sawing and the waste in the case of the red-gum are more productive of expense than the corresponding operation in the case of the ironbark.

H. Deane, Esq.
5 June, 1896.

57. There is a charge here for water supply, £500; how do you propose to supply this line with water—would it be by catchment, or what means? I think we shall very likely have to make a dam and put up a small pump. There are wells in the district, but it has not yet been proved that they are very suitable for engine supply.
58. But that sum will be adequate for supplying water? Yes; that will be adequate for the purpose.
59. Is 11 per cent. a moderate sum to allow for engineering and contingencies? Yes; that is a moderate sum. If you allow engineering 6 per cent., it only leaves 5 per cent. for contingencies.
60. *Mr. Clarke.*] I notice that this is described as a level country; do you not think that £2,000 a mile is rather excessive? No; it is very cheap.
61. In a level country, for a light railway? Yes; very cheap.
62. Are you aware whether there is much settlement about this place—Finley or Murray Hut? There is a good deal of settlement.
63. Between Berrigan and Finley, I suppose? Yes.
64. And I presume that the railway is proposed to be made in consequence of that settlement? Yes.
65. The soil is very good? Yes, it is very good soil, very similar to that which you see in passing through to Berrigan.
66. Is it adapted for growing wheat or oats? Yes.
67. I see it is stated here by the Commissioners that one of the objects of constructing this line would be to prevent the traffic from going to Victoria? Yes; that is in their 1894 report.
68. But extending the line from Berrigan to Finley brings it nearer to the Victorian border;—would that not be an inducement for settlers or farmers to send their produce to Victoria if it suited them to do so, and be therefore injurious to the interests of New South Wales? I suppose that would be in a great measure a question of rates.
69. I understand that the greater portion of the traffic on the Culcairn-Corowa line, in fact nearly all of it, goes to Wahgunyah, so that we have actually made a line which benefits another colony? I am not prepared to give any evidence on that point. I am not consulted on those questions, and therefore I do not study them.
70. On the whole you think that it would be desirable to have this proposed line made? Yes, I think so.
71. You think it would be to the general interests of this country? Yes.
72. *Mr. Fegan.*] You say you think it is right to construct this line, but do you not think that we are starting with a balance on the wrong side in constructing a line, the total revenue of which will be £701 per annum, whilst the expenditure will be £1,536? If the land put under cultivation increases, of course the revenue will very largely increase; but definite information could be obtained from Mr. Harper, who has examined the district.
73. *Mr. Hassall.*] With regard to the estimated annual cost and the estimated revenue, showing an annual loss of £835, do you think that that estimated loss could be reduced to any considerable extent? That is the same question.
74. You do not care to commit yourself? It is not a point I have considered. I have not been instructed to go into that question. It is dealt with by the Commissioners and their officers.
75. Well, with regard to construction, it is estimated in one place that the cost will be £2,316 4s. per mile—that is an estimate submitted by the Engineer-in-Chief; but I find that afterwards it is stated that the cost will be £2,000 per mile; do you think that the £316 4s. difference can be eliminated? Yes. I think it is very likely that at that time I might have submitted an estimate of that kind, but it so happens that that estimate was made in December, 1894, by Mr. Firth, who was acting for me during my absence. While I was away from the colony, I looked into the matter of railway construction elsewhere, especially in America, and I came to the conclusion that we could cut down our cost of construction a good deal by lowering the formation and leaving out ballast; and the reduction in this case is effected chiefly in that way.
76. You think the estimate could be reduced to the extent stated? Yes.
77. By reduction of wages, I presume, and perhaps less cost of material? Yes.
78. In their report the Commissioners say, "The Commissioners are of opinion that the Acting Engineer-in-Chief for Railway Construction would be able to submit a much lower estimate than £30,000, upon careful examination of the country, as this line might be made in the cheapest possible way, and be of less cost than £2,000 per mile"? The Acting Engineer-in-Chief for Railway Construction in 1894 was Mr. Firth, but I have since convinced Mr. Eddy that it is not possible to reduce the cost below £2,000 per mile.
79. You do not think it is possible to construct the line properly for less? No; not to make it satisfactory at all.
80. Do you think there is any prospect of the area under cultivation being increased if this line be constructed? I think there is every possibility of that. The area under cultivation has largely increased in that district during the last two years.
81. You say this estimate is exclusive of the cost of land and compensation;—have you any idea what that would come to? No, I have not made any estimate.
82. The Commissioners only recommend that this line should be constructed on the condition that the land required for it shall be given free? I think a great deal of it will be given free, and I think it will be possible to arrange for exchange in other cases.
83. With regard to the traffic, the railway line now being constructed from Jerilderie to Berrigan, and, of course bringing the railway within 13½ miles of Finley, do you think that the construction of this line is warranted—that the traffic would drift anywhere else if this line were not constructed? It seems to me the Commissioners believe it will take traffic that would otherwise go into Victoria.
84. If that is the idea, would it not be better to run the line from Berrigan, say, to Tocumwal or Barooga, in order to get the border traffic? That would be carrying the traffic down there.
85. *Mr. Roberts.*] Are you in a position to tell us the exact cost per mile of the line from Jerilderie to Berrigan? No, not yet.
86. Can you give us an approximate idea of what it will cost? I do not think I can tell you approximately. Except for the rails I have already mentioned, I do not think it will greatly exceed the estimated cost.
87. You contemplate using some second-hand rails for about 10 miles of that line, which enabled you to bring in a lower estimate than otherwise would have been given? Yes.
88. But you found out afterwards that you had to use new rails? Yes.
89. What was the amount of the successful tender for that line? It was about 4 per cent. under my estimate.
90. Your estimate was £2,000 per mile, was it not? The 4 per cent. applies only to certain portions of the earthworks and bridges. It would not affect the rails and a lot of the other works.

H. Deane, Esq. 5 June, 1896.

91. Do you think that this line from Berrigan to Finley could be constructed at a lower price per mile than the line from Jerilderie to Berrigan? My estimate is much lower.
92. I think your estimate for the line from Jerilderie to Berrigan was £2,000 per mile? No, £2,100, including the old rails. The earthworks on the Jerilderie-Berrigan line were put down at £225 per mile. For this line they are put down at £120. The box drains and tender bridges were put down at £111 per mile. In this case they are put down at only £40.
93. There are no waterways on this line? No; and that makes a saving of £71 per mile.
94. If this line be constructed it will really be the cheapest line yet constructed in this colony? Yes.
95. *Mr. Wright.*] In answer to Mr. Trickett you said that the official description of the line says, "The country being closely settled, numerous accommodation works are necessary"; and looking through the detailed estimate submitted here, I see the item "level crossings, fencing, and road diversions, £1,240," which is only a fraction over 4½ per cent. on the cost of construction;—that is not unusually high, is it, for work of this kind? No; it is not at all high.
96. How then do you account for the statement, "numerous accommodation works are necessary," when, in fact, they are not necessary? When you consider that the line is intended to be an exceptionally cheap line, it may have been thought that that portion of the estimate could be cut down.
97. Below that I see you make provision to the following effect: "Station buildings, passenger building 'C,' £250; waiting-shed, £125; goods-shed and platform, £400; loading banks, £200; grain-shed, £250; station-master's house, £300; 20-ton weighbridge, 275";—I do not know if you have ever been in the great wheat-producing districts of South Australia? I have been there.
98. Well, the South Australian Government do not provide any sheds for covering wheat, in fact, they would be of no use for that purpose, for they would have to cover 2 acres of ground; I think that item grain-shed, £250," is altogether unnecessary, and it strikes me that a goods-shed, except a very small one, is altogether unnecessary? It is a point the Railway Commissioners have the decision of.
99. Then there is no necessity for a 20-ton weighbridge—a 10-ton weighbridge is all you want? They use large drays down there.
100. They do not carry more than 10 tons on them? Yes.
101. In reference to level crossings, there is a system of level-crossing with our gates known as the Pitt system;—do you approve of that? Yes; I put them down in some places.
102. Do you not think they are a very great improvement, and though not cheaper in the original cost of construction they save a lot of wear and tear in after years? Yes.
103. You propose to adopt them on this line, do you? I have put them where they were suitable. On this line the crossings that will occur will be chiefly of this character. The line being alongside the road, there will be no road crossings in the same sense as if we were going through the country.
104. Are there no intersecting roads? Yes; there will be one or two, but most of the crossings will be crossings out of paddocks across the line, on to the road, where, of course, a gate will be necessary.
105. You have to put a gate in a private owner's fence? Yes; where he has a gate at present on to the road he will require to have a gate on to the line and a crossing over the line.
106. Do you propose to run this line all along a public road? It is proposed to run it in the same way as the Jerilderie to Berrigan line is run, that is, alongside the public road, and to divert the road where the road is not in a suitable place so as to go alongside the line.
107. Then do I understand that in carrying it alongside the road you resume a slip of land? Yes, to form the railway.
108. To carry it just clear of the road? Yes.
109. You say that £2,000 per mile will make the cheapest line constructed in this colony? Yes.
110. Are you aware that much cheaper lines have been constructed in the adjoining colonies? I have heard of a line recently constructed in Victoria.
111. Are you not aware that lines have been constructed in Queensland at a very much lesser rate—of course, with a narrower gauge? I was looking through the cost of the Queensland lines, and I could not find any.
112. I wish you would look at the cost of construction of the line from Homebush to Hughenden, on the main western line to Townsville? I knew the cost of those lines some time ago, and I do not think they cost less than ours.
113. £1,850 per mile, I think, one of them cost? That is for a narrow-gauge line, with 40-lb. rails.
114. On the question of ballasting, you estimate for one-sixth;—do you mean one-sixth ballasting or one-sixth part of the line? One-sixth part of the line.
115. How far would you have to bring ballast? From about 2 miles out of Narrandera, or a lesser distance. As I have explained, you can get the decayed granite, which makes very good roads, at Berrigan.
116. Do you know what the Deniliquin-Moama line is ballasted with? Yes.
117. Burnt clay? There is a lot of gravel. There are gravel-pits on that line.
118. Has the Department made any satisfactory exploration of the district for water? No.
119. Then your estimate of £500 for water supply, which I suppose includes pumps and everything else, is, to a certain extent, one that cannot be relied upon? It is only a subsidiary expense to what has been provided on the Berrigan line. We do not require a separate water supply for this line.
120. You can do without a water supply for this line? Yes, we can run trucks.
121. So if you found the expense of obtaining water was very great, you could omit that item altogether? Yes. But between Jerilderie and Finley, I estimate £1,250—that is, £750 for one, and £500 for the other line.
122. You think that in all probability that will be ample? Yes.
123. And you say that your estimate for the construction of the Jerilderie-Berrigan line will not be exceeded as regards the carrying out of the works? Except in the matter of rails and road-fencing; I think everything else will come out alright.
124. You estimated to get old rails for the Berrigan line? Yes, for half the length.
125. At half cost? At much less than half cost.
126. And when the works were undertaken you found that the old rails were not available, and you had to use new rails? Yes.
127. And that has added very materially to your original estimate? Yes.

H. Deane, Esq. 5 June, 1896.

128. How much per mile do you think it has added? About £250.
129. This estimate, I take it, includes new rails? Yes.
130. And you have no doubt that this estimate will cover the actual cost? Yes, I believe it will.
131. *Chairman.*] Looking immediately west of the terminal railway station—Jerilderie to Berrigan line—you will notice that when you leave that station you go through various small areas, and then eventually reach the main road at 435 miles, in portion 64? Yes.
132. You will have a fairly considerable severance there? Yes.
133. If you had followed that line on the north side until you got within 4 or 5 chains of the north-east corner of portion 33, and then turned in a north-westerly direction, you would have picked up the survey from The Rock, and then apparently you would have a clean get-away on The Rock route, whereas if you take the line as you suggest it now, right up into the railway station, and if population settles round the station on the western side, it will be difficult to get out on to the line; it would not be a through line, but a line from Finley to Berrigan, and then out of Berrigan again to The Rock? I believe that we shall find that to the south of the railway station, as shown at present, the land has been subdivided into allotments, and there might be more difficulty in obtaining that land than in obtaining land directly to the west. Besides that, The Rock line, after going through Berrigan, cuts through some subdivided land. The line, as located by me, appeared to do the least damage. But there would be no engineering difficulty in shifting it one way or the other, because the country is all level.
134. Would it not appear, without a knowledge of the immediate surroundings, that, in order to make a good through line of it, the line should be taken in a curve from A to B, as shown on the plan? The interference with allotments on the road to the west of A would be found considerable. Furthermore, the road is the main trunk road, and it is only a chain wide.
135. I notice that your line curves in a southerly direction after going to the allotments to the north of Finley;—is there any intention to take it to Tocumwal? I do not know that that is part of the policy of the Government.
136. If the line be eventually extended to the west, to reach the country towards Deniliquin, might it not be well to stop at 447 miles, provided a suitable station site could be obtained on Government land, instead of putting in a bend that may eventually prove to have been taken in a wrong direction? I believe that at 447 miles a suitable site would not be found; but if the line is bent, as shown on the plan, it can be continued through the township of Finley, and carried either to Tocumwal or westward.
137. If the line should eventually go on to the west, and not south, would it not be better for the present not to put a southerly bend in it—always supposing that a suitable railway station site can be obtained somewhere in the position marked—near 447 miles? I consider that, taking either contingency into consideration, the site proposed is the best.
138. Can you give any reason for that? In choosing the north side of Osborne-street I was influenced purely by the circumstance that there appeared to be sufficient Government land there to meet all station requirements, and an extension either west or south would proceed better from there than from anywhere else.
139. You intend, according to one of the plans furnished to the Committee, to divert the road anywhere that is possible? Yes.
140. And with the exception of the first mile from Berrigan the line will be continuous to the present road or to the road as diverted? Yes.
141. In your estimate you have no statement with regard to the cost of road diversion? No.
142. You think your earthworks and other things will cover it? Yes; and the crossing and fencing.
143. And the 11 per cent. for engineering and contingencies also will be sufficient to cover it? I do not want to have to draw upon that for that purpose.
144. Do you intend to fence the line right through? It will have to be fenced on one side of the road, or the present fence will have to be removed.

FRIDAY, 12 *JUNE*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	George Black, Esq.

Francis Augustus Wright, Esq.

The Committee further considered the proposed Railway from Berrigan to Finley.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, sworn, and examined:—

H. McLachlan, Esq. 12 June, 1896.

145. *Chairman.*] You are Secretary to the Railway Commissioners? Yes.
146. You have already given a statement from the Railway Commissioners regarding the proposed railway? Yes.
147. Have you any further statement to make? No; the Commissioners thought that the statement they submitted clearly expressed their views with regard to the proposed extension.
148. There is an estimated annual loss of £835? Yes.
149. Will you explain why the Commissioners, notwithstanding this loss, think it advisable that the railway should be constructed? In dealing with new lines the Commissioners have, on many occasions, recommended their construction, even though there would be a loss on interest and working expenses, provided the railway would pay its working expenses, believing that the development of the country and the opening up of the district would warrrant the construction of the line.
150. *Mr. Fegan.*] What is the advantage to be gained, seeing that there are so many non-paying railways at present, that we should add to their number by constructing this line? This line would be an advantage to the district, though, according to the Commissioners' figures, it would not make the other lines more

H. McLachlan, Esq. 12 June, 1896.

more payable. It is just a question whether you should not give to the district the advantage of railway communication. As far as the financial result is concerned it would not help the railway system.
151. You have refused to recommend railways in other districts on the ground that they would not be payable? The Commissioners have looked upon each case according to its merits. I have on more than one occasion stated that the Commissioners generally lay down this rule—that if a line paid its working expenses, and showed a reasonable prospect of paying anything more, in view of the advantages derived to the railway from the development of the country, they would be prepared to recommend such a line; but they would make no general rule. They would deal with each case on its merits. In this case, subject to the land being given free, they are prepared to recommend the construction of the railway.
152. Have you any reason to think that a line from Berrigan to Finley would be the means of inducing people to settle in that district, and open up the country for cultivation? Yes; I think it would lead to the development of agricultural production in the district. Within recent years there has been a great development of agriculture in that locality. Within three years the production of grain in the county of Denison, which includes this district, has almost doubled.
153. Is the land along the route Crown land or private land? Most of it is private land.
154. You think the country should be saddled with a line of railway to improve private property without itself getting some return? The Commissioners make it a condition that the land should be given free, but it is difficult to provide for anything beyond that.
155. If, according to your statement, the line will open up the country, by whom will the benefit be derived? Primarily by the people of the district.
156. Or the landowners of the district? It will be of benefit to them.
157. At a cost of £835 a year to the State? At the present time that is the estimate.
158. You think it is reasonable to ask the country to construct this line where there is no probability of a return to cover the cost? The estimate given applies to the first opening of the line; it might, owing to future development, become more self-supporting.
159. Do you expect much of a passenger traffic? No, not a great deal.
160. What freights do you propose to charge? Mr. Harper prepared a schedule of local rates which the Commissioners thought of introducing, and he will be able to give evidence on that point. I think it was proposed to charge 2s. a ton for grain, and 3s. a ton for general goods.
161. How far is Finley from Deniliquin? A long way—about 30 miles.
162. Is it the intention of the Commissioners to proceed further with the line? No; they have no idea at present of going further with it.
163. Do you think that by extending the railway from Berrigan to Finley the effect will be to take the traffic from New South Wales and send it on to Victoria? No; I do not think the line would have that effect.
164. You think that with the greater facilities given to our own people in the shape of railway communication, they will send their goods to our own market? I think that within a reasonable distance from the proposed railway the whole of the grain produced will come to Sydney.
165. I suppose at present a great deal of this traffic goes to Victoria, owing to the absence of railway communication? It is only recently that grain production has been so largely developed in this district, and the cost of cartage to Jerilderie has been a handicap against the grain coming to Sydney.
166. Do you know whether the people have asked to have this line constructed? Yes.
167. What reasons have you for saying so? The Commissioners were themselves in the district, and the people asked that the line should be constructed. Usually such requests do not come to the Commissioners, but to the Department of Public Works, and if there is a public demand for the railway the Commissioners are asked to report. Requests I know were made to the Department of Public Works, and also to the Commissioners themselves when they visited the district.
168. When the Commissioners are on tour the people generally approach them and ask for railway extension? No. The Commissioners went into this district specially to look at the proposed line, and they met a number of the people about Finley. The question of this extension was raised at the time when the Public Works Committee considered the line from Jerilderie to Berrigan, and I think the Sectional Committee to some extent advised the construction of the line to Finley.
169. But it is not an unusual thing for deputations to approach the Commissioners asking for railway communication when the Commissioners are visiting the district? Such a thing would be unusual. The Commissioners, as a rule, would suggest to such persons that they should go to the Government, the construction of a new line being a matter of policy. When visiting a district and inquiring as to its probable development the Commissioners would, of course, see the people and get information from them.
170. The length of the proposed line is 13 miles and 50 chains, and the country is almost flat? Yes; the line would be a very cheap one to make.
171. The estimated cost is £2,000 a mile, exclusive of land and compensation? Yes.
172. Will there be much land along the line to be bought? There is not a great deal, but the land required may be given free.
173. Does the route run exclusively through private property? I think it does. It terminates on a reserve, but otherwise I think it goes through private lands.
174. *Mr. Hassall.*] The calculation in regard to the receipts and expenditure shows an estimated annual loss of £835? Yes.
175. Have you any idea whether the traffic will be sufficient to reduce that loss, or to leave a profit? I do not think anybody could say that; it is extremely problematical. The Commissioners recommend the construction of the line, in the face of this estimated loss, but they do not say that in a year or two the loss will be covered. I do not think they would like to hazard the opinion that it would be turned into a profit within any particular time.
176. The land being held by private owners, do you think there is any possibility of the traffic so increasing that this loss would be materially reduced? I would not care to say. There ought to be a certain development to reduce the loss, but I should not like to say to what extent. I think the Committee should look at the proposal in the light of the figures given—that the probability at present is that the traffic on the line will result in a loss of £835 a year.
177. Have you any knowledge with regard to any proposal to obtain the land? Except that the Commissioners have made it a condition of their recommendation that the land shall be given free. When they

H. McLachlan, Esq.
12 June, 1896.

they were at Finley they understood from the people there that there would be no difficulty in getting the land.
178. They say they think there would be "but little difficulty"—there may be some difficulty? There was nothing definite done—nothing formal. It was only a matter of conversation.
179. There was no guarantee from the owners that they would give their land free of cost? No.
180. That is a matter that would have to be further inquired into? Yes.
181. If that were done the Commissioners, you say, would recommend the construction of the line? Yes.
182. But without that, I presume they would not? Without that the Commissioners would not. Their feeling is that the people should give the land free.
183. Have you any idea of the extent of cultivation that is carried on in the district? I have not the exact acreage. Mr. Harper went through the district. One of the statements submitted to the Commissioners showed that there had been a very great increase in the area under production; in fact, I think it had increased within a few years from about 4,000 acres to 32,000 or 33,000 acres. And I know from the returns with respect to the county of Denison, that while in 1893 the quantity of wheat produced was 479,000 bushels in 1895—that is, up to the end of April, 1895—the production had increased to 879,000 bushels. So that already there has been a very big increase in the production of the district. No doubt that has been influenced, to some extent, by the probability of a railway being constructed to Berrigan. We are informed that a great deal more land is being put under crop, and the same thing may be expected to some extent if the railway is extended to Finley.
184. Do you not think that the imposition of a duty on cereals may have had a great deal to do with so much more land being put under cultivation, and that this fact may not be altogether attributable to the prospect of a railway being constructed? I could not say.
185. Have you any idea what the Commissioners call a reasonable cost;—do they take the estimate for the construction of the line as submitted here as a reasonable cost? Yes.
186. They think that if the line can be constructed at that rate it will be a reasonable figure? They had that figure before them when they made their report.
187. You have no idea, I suppose, how many stations will be required along the line? It will be possible to put in intermediate sidings at no great expense, the same as has been done on the Lismore to Tweed line. In that district, at many farms, an additional siding has been put in for the accommodation of a number of people close together. Sugar-cane is a very heavy crop, and you get a fairly good load from a small area. At a number of places intermediate sidings have been put in. They cost nothing, except for putting in; no station hands are required. Between Berrigan and Finley it is not likely that a station staff would be located at any place, although there might be some sidings. On the Richmond to Tweed line we run the American car with steps, and consequently there is no necessity for an expensive platform.
188. You do not think, then, that the works on this proposed line would be of a very expensive character? No. The details are shown in Mr. Deane's estimate. It will be seen that he does not provide for expensive work.
189. The proposed line runs away at right angles from Berrigan to Murray Hut;—having brought the railway down to Berrigan, do you think there is any necessity to carry it on to Finley in order to obtain that traffic? If you bring it on to Finley you are more likely to develop production. Grain and agricultural products are articles of low value, and cannot afford to pay a high rate of carriage. What I mean is this: Take an area close to Sydney—say the Crookwell district—it is 34 miles from Goulburn and 160 miles from Sydney. On account of that 34 miles of road carriage the cultivation and the progress of the district are very much retarded. If you constructed a line over those 34 miles the result would be a large increase in the production. Every 10 miles would make a big difference in the area under agriculture, because, as I have said before, grain and other articles of farm produce are of comparatively low value, and cannot afford to pay a high rate of carriage, and cartage by road is always much heavier than by rail.
190. But there is a difference between 34 miles and 13 miles? Still, every mile must make a difference otherwise you might just as well stop at Jerilderie, and not go to Berrigan.
191. Admitted that it is advisable to construct a railway to Finley, in view of the increased production that may take place, do you contemplate that the residents of Tocumwal would begin to agitate for an extension to that place, the same arguments being used as those now put forward in favour of the extension to Finley? I think you will find that the people of every agricultural district in the country agitate for railway communication. It is just a question whether the Commissioners will recommend it, and whether the line asked for is likely to pay. There is no doubt you will find people agitating for a railway, because they all recognise its advantages.
192. In the event of this line being constructed, and an agitation being got up for its further extension as far as Barooga, a distance of 20 miles, that would bring you right into juxtaposition with the Victorian railway at Cobram;—if that extension were carried out, is it not extremely probable that the traffic from this portion of the country would go across the border into Victoria, along the shortest railway route to the market? It is not likely that any grain from this district would be sent across into Victoria. If there were no other obstacle, the Victorian duty on the border would prevent such a thing. On the other hand, Sydney is a better local market than Melbourne, because Melbourne has so many producers close at hand.
193. There is another phase of the question. In the event of federation taking place, and the border duties being swept away, the result of this railway extension will be to provide increased facilities for the residents of this portion of the colony to send their produce to the Victorian market;—is not that a matter that must be considered? It is a matter which would come into consideration. But it will be a long time before Melbourne is a better market for that district than Sydney, and with the Victorian duty there is no doubt as to which way the grain will come.
194. In view of the difference in the distance, and that the stuff will have to be carried on the railway line, in the event of the duties on the border being removed, must not the traffic naturally drift to the nearest point? Not naturally. It would drift to the best market.
195. But Melbourne may be the best market? I do not think so, because there is such an immense amount of production immediately adjacent to Melbourne. Go further north and take the Brisbane market. You might say that Brisbane ought to be supplied with sufficient grain from an area within 100 miles of that market, but we know that sufficient grain is not produced there, and that the people have to import it.

H. McLachlan, Esq.

12 June, 1896.

196. But there are very large quantities of grain grown in the Darling Downs? Not sufficient for the requirements of Queensland. It is not so much the proximity of a market as the adaptability of the market to the requirements.

197. You have to take into consideration the soil and climate, and as you go further north the land is not so suitable for the growth of cereals? That is one reason why the production from this district is likely to come to Sydney. At the present time, with the Victorian border duty, there is no doubt as to which way it will come.

198. Under the circumstances, you think the Commissioners are justified in recommending the proposed extension? Yes; the Commissioners recommend it with a full knowledge of the whole of the circumstances.

199. *Mr. Roberts.*] Have the Commissioners been over the proposed line? Yes.

200. Were they struck with the fertility of the district, so as to cause them to come to a determination to recommend this line, notwithstanding that the figures show a probable loss of £800 per annum? Yes; they mention in their report that the district is very fertile, and previously they said, with regard to the district, that the land was the most suitable for grain-growing that they had seen in the colony.

201. It is a wheat-growing district, is it not? Yes, principally.

202. Is not Berrigan what may be termed the centre of that wheat-growing district? I suppose Berrigan would be a fair centre for the district.

203. And at the present time the wheat cultivation is nearer to Berrigan than to Finley? I think it is at present.

204. Is it a fact that if this railway were constructed a large area of land would be thrown open for lease? That is the feeling—that if there were railway facilities a great deal more land would come under cultivation, and squatters would find it to their advantage to cut up their holdings, as has already been done to some extent.

205. Does the wool from Tuppal Station now come to Sydney? No; it goes to Melbourne. We had the clip one year, but, as a rule, the Tuppal wool has gone to Melbourne.

206. Is it probable that you would get this wool if the line were constructed? The Commissioners would not like to advance that, and say they would be certain to get it. They would not like to give an estimate which might not be realised. They have not considered the Tuppal clip in their estimate.

207. But they think the construction of the railway would induce a number of people to settle about Finley, with the view to the cultivation of wheat? Yes.

208. The Commissioners are very emphatic on the point that the land required for the railway must be given free of cost? Yes.

209. You propose to charge 3¼ per cent. interest on the cost of construction? Yes.

210. Is that the lowest rate yet charged? That is the lowest rate the Commissioners have allowed.

211. Are you in a position to verify the statement that, while the cultivated area of the district was about 4,000 acres some five years ago, it has now reached 44,000 acres? I am not in a position to verify those figures. The information came from local sources. I think it was given by a deputation that waited upon the Minister for Works. I have no personal knowledge to support the statement.

212. You have no reason to doubt it? No.

213. Will the line be easy of construction? Very easy. The country is level, and there are no engineering difficulties.

214. *Mr. Wright.*] Do you know if there are any Crown lands at all in this neighbourhood? Not to my knowledge.

215. As far as you know the whole of the land is alienated? Yes, the greater extent, so far as I am aware.

216. Are you aware that a map was recently laid on the Table of Parliament showing that there was no land there at all, except private land? No; I am not aware.

217. Do you think it advisable that the people of New South Wales should construct a railway on which an annual loss is shown of £800 for the benefit, almost exclusively, of a few large pastoral holders? The benefit would be to the people who would settle and cultivate the land.

218. But at present the land is held by a few big men? There is no doubt that in the first instance it would be to the advantage of the owners of large estates.

219. Do you think we should be justified, at a loss of £800 a year, in constructing a line for the benefit of these owners and possible settlers who may be induced to go there? It is the opinion of the Commissioners that the line is a desirable one to make.

220. Do you know what proportion of the land is cultivated? No; I have never been in the district.

221. By reason of the duty placed on wheat in Victoria, and the distance from the Victorian border, you hope to secure the whole of the grain grown in these districts if the railway is constructed? Yes; within a reasonable distance of the line.

222. Do you get now, or do you expect to get, any other traffic but wheat traffic from that district? Very little general traffic is included in the estimate.

223. At the present time do we get over our railways one-third of the goods that are consumed in Jerilderie? I should not like to say of my own knowledge.

224. When the line to Berrigan is completed, do you think Sydney will supply any large proportion of the goods for that district? I do not think it will supply a big proportion; it will supply a proportion of the goods.

225. That being so, this railway would be constructed practically for the purpose of wheat carrying only? To a large extent, that would be so.

226. Do you think there is any feeling in the minds of the Commissioners in recommending this line in the way of competition or opposition to the Victorian railway system? No; I do not think that to any large extent they were influenced by that feeling.

227. You are aware that for some time past very active competition has taken place between the Railway Commissioners of New South Wales and the Railway Commissioners of Victoria for the wool traffic of this particular district? Yes.

228. You are aware that on one occasion we drew the Moulamein and Tuppal wool at a rate £1 a ton less than the rate charged to other people? We drew it at a special rate.

229. And notwithstanding that special rate we failed to get it last year and the year before? Simply because the Commissioners last year would not quote the special rate that they quoted the year before.

H. McLachlan, Esq.
12 June, 1896.

230. Are you aware that Mr. Faulkner, the owner of Tuppal and two other stations, tried to set up one body of Commissioners against the other, and offered absurd rates of carriage first to one and then the other? The Commissioners looked at it in this light. They quoted a rate which they thought would return a profit. If the Victorian Commissioners quoted a rate lower than that, and it did not pay, then the Commissioners let them carry the wool.
231. You are aware that there has been considerable competition between the two sets of Commissioners for the wool of this district? Yes.
232. And that this colony has not been able to obtain that wool at a fairly remunerative rate of carriage? The wool that we have obtained has been obtained at a rate that pays.
233. But, as regards the wool of this district, we have not been able to get it at a fair rate of carriage? The Tuppal wool is taken at a very low rate.
234. And we have not been able to keep it at that rate? I think we could have got it at the same rate, but my impression is that the Commissioners did not care about quoting it again.
235. So that if this railway were constructed to Finley the chances are that there would be a large cultivation of wheat, and in your opinion a certainty that that wheat would come to Sydney? Yes; at the present time.
236. While the duty remains on the Victorian border? Yes.
237. And in the event of the wheat being desired for export, do you still think it would come to Sydney? Under the present circumstances it would. The rate from Cobram to Melbourne is about 12s. 6d. a ton, and the wheat would not be carried from Finley to Cobram under 7s. 6d. a ton at the lowest. That would amount to a total cost for carriage from Finley to Melbourne of £1.
238. That is something above the cost of carriage to Sydney? Yes, a couple of shillings above our rate; which would be 17s. 6d. right through from Finley.
239. But you have no hope of capturing the traffic of the district other than cereals? I do not think we would get the traffic in general goods.
240. Do you think it fair to the taxpayers of this country to construct a line of railway for the benefit of a few landowners, and possibly some cultivators in Riverina, where a large annual loss is shown in the estimate? The benefit will be spread over a large number of people. Employment will be given in opening up the country, and in that way the construction of the line will be an advantage to the whole community.
241. You cannot open up much country by 12 miles of railway? I think you can.
242. Do you not think it would be more beneficial if we spent the money nearer home, where we could cultivate land—for instance, on the line you mentioned from Goulburn to Crookwell? The Commissioners recommended that line as well.
243. *Mr. Trickett.*] When you were examined in reference to the line from Jerilderie to Berrigan you stated that the loss on the branch line from Narrandera to Jerilderie in 1893 was £18,000? About £17,000 or £18,000.
244. Can you tell us what the loss was for 1894? About £14,000.
245. Can you tell us what it was for 1895? The figures are not yet published, but I should say about £10,000.
246. So that the line is gradually improving? Yes. I might explain that last year was a particularly good one for the Riverina district. The earnings particularly on the Hay line improved wonderfully. As you are aware there was a big drought in the west and north-west, while in Riverina the season was fairly good, and we had a very heavy stock traffic from Riverina which helped considerably towards making the Riverina line pay this year.
247. Do you think it is likely that the figures will go back again to a greater loss this year? I do not know if the Hay line itself will be as good. This last year has been an exceptionally good one, and I should not like to say that the current year will be as good.
248. *Mr. Black.*] In reply to Mr. Fegan, you said that the grain production had doubled in the county of Denison? Yes, within three years—from 1893 to 1895.
249. Is it likely from the quantity of ground now being ploughed and put under crop, that there will be an increase for the coming season? I think there will be. Mr. Harper visited the district specially to obtain information of this kind, and he will be able to give you reliable evidence on the point.
250. *Mr. Lee.*] You were asked whether there were any Crown lands along the proposed route, and your reply was that you thought there were not? Not to my knowledge.
251. I suppose you have no personal knowledge of the district? No; I have not been beyond Jerilderie.
252. Are you aware that when the line was proposed from Jerilderie to Berrigan, there was absolutely no Crown land along the route? I believe that was so.
253. With the exception of a small travelling stock reserve, there were absolutely no Crown lands on that route? Yes.
254. Therefore the whole of that country, which is 21 miles 10 chains long, was freehold property? Yes.
255. You are aware that the rate of carriage between Jerilderie and Berrigan was 9s. a ton? Yes; 9s. or 10s. per ton, according to the information we obtained.
256. And that the Commissioners struck a rate for carriage on the railway at 2s. 6d. per ton? Yes; for grain.
257. Is it not a fact that since the construction of that line has been commenced, farmers have been and are at this moment stacking their wheat, and holding it until the completion of the line? Yes; a letter reached the office to-day from some persons interested, urging that the line should be opened without delay, as they had a large quantity of wheat stacked waiting for the line to be opened.
258. If there were no Crown lands between those two points, or in the locality of Berrigan, and yet the Commissioners could see that the line would afford great facilities to the settlers, and pay the country as well, do you think the same results are likely to accrue from this extension to Finley? That is the impression of the Commissioners—that somewhat similar results will follow.
259. Are you aware that there are 160,000 acres of freehold land on the Tuppal station? I do not know the exact area.
260. Are you aware that the owner of Tuppal has on a previous occasion sworn that he is prepared to throw it open for settlement? I am not aware.
261. But you are aware that the owners of the adjoining stations and stations above Berrigan have thrown open their lands on the same conditions—that is, partly lease and partly sale? Yes; I know that that has been the case in regard to many of the large holdings.

H. McLachlan, Esq.

12 June, 1896.

262. With the result that a large population has been introduced who are carrying on farming on a large scale? Yes.
263. As a matter of fact is not that part of the country at the present moment the largest wheat-producing portion of New South Wales? Denison I think, has produced the greatest quantity of wheat of any of the counties.
264. Is there not a probability of a very large extension of wheat growing there? I think so.
265. You said that you believed that Berrigan is the centre of the agricultural district? At the present time I think it is.
266. You had in view, of course, the large area on the eastern side towards Savernake, and in that direction? Yes.
267. And you are also aware that a line from Jerilderie to Finley, or from Jerilderie to Berrigan could not possibly serve the whole of the people about Savernake, Berrigan, Finley, and west of Finley? I am not acquainted with the local circumstances.
268. The fact of there being no Crown lands in the locality in no way influenced the Commissioners in their estimate of the probable ultimate success of the line? No, they were aware of the circumstances.
269. They look at the matter from two points of view—one is, I presume, the relief that would be given to settlers in the country, and the other, the extreme probability of the state being recouped for the cost of the line? I do not know what view they had with regard to the ultimate payableness of the line, but they looked upon it as being a desirable thing to undertake in the interests of the country—that the line would open up an extensive area, and give a great deal of traffic, although at first it would result in a loss.
270. Inasmuch as the Commissioners show that the line from Jerilderie to Berrigan will not only pay working expences and interest upon capital, but leave a small profit upon the first year's workings, although it all goes through Crown lands, is it not a fair presumption that the extension of the line through similar country to Finley and to touch similar country west of Finley, will produce the same result? The Commissioners do not actually show that. In one case they show that a profit will be made, and in the other they do not show that at the present the whole expenditure will be covered.
271. In estimating the probable profits of the Berrigan line, did they not take a certain radius from Berrigan? Mr. Harper went through the district, and he obtained a very good idea of the traffic that would come to the line.
272. Drawing a line which he thought would govern the traffic—showing the traffic it would draw from towards the Finley side? In the same way he went through the Finley district, and showed what would be the result there. You must recollect that as you go further into the country the traffic will taper off, as a rule, towards the terminal point.
273. In their estimate for the Berrigan line they necessarily had to go a certain distance west of Berrigan? Yes.
274. In their estimate for the Finley line, I presume they have not included that a second time? No; although, of course, the double traffic would be covered by the Berrigan line. That is to say traffic must taper off towards the terminal point, because you have the aggregation of traffic as you go along.
275. It would appear from the Commissioners' report that they have been largely influenced in suggesting the construction of this line, by the fact that there is a large amount of traffic in that portion of the colony which finds its way to Victoria? Yes.
276. And it would be in the interests of the country to divert that traffic to its proper channel—that is what it means? That is really the meaning of their first memo.
277. Is wheat in that portion of the colony a commodity that will stand diverting to the metropolitan market and intermediate markets;—is it a commodity of such value that it would stand the cost of transit? It is a commodity that would not stand much cost in transit.
278. But will it stand the additional 15 or 16 miles? Yes, I think so. The charge will be about 2s. a ton, or roughly ½d. a bushel.
279. As that part of the country is essentially a grain-producing country, and as that grain, under present conditions, cannot possibly go into Victoria for consumption, it could only be sent through Victoria by way of export to Great Britain, or for re-entry into New South Wales? Yes.
280. As a matter of fact, do you happen to know from your railway returns whether much of it is sent for those purposes? I do not think that a great deal of it, at any rate from about Berrigan at the present time, is finding its way into Victoria, because the cost of carriage from Berrigan to Cobram would not, I think, be under 10s. a ton, and from Cobram to Melbourne the railway carriage would be 12s. 6d. a ton. On the other hand the grain could be carried from Berrigan to Sydney under our special rates for 15s. 4d.
281. Regarding the condition of that particular kind of agriculture in that portion of the colony, is it not a fact that there are very large intermediate markets in this colony? Intermediate markets are supplied locally, as a rule. Hay furnishes a market—that is the only one I know of. A great deal of grain has been sent from Jerilderie to Murrumburrah, and to Goulburn, not so much for local consumption, as for the purpose of being ground and being subsequently sent to Sydney. In both those cases, so far as local requirements are concerned, I daresay the markets could be supplied locally.
282. But you know from your railway returns that a large proportion of wheat grown out there does not come into Sydney as wheat? No, it is ground into flour.
283. It is intercepted? Yes; that has been the case.
284. At all events, that business has been going on for some years. Your railway is used for the transport of flour and wheat, and it would appear that that has been a profitable business? Yes, it has been.
285. Have you found since the Department of Railways reduced the rates for the conveyance of wheat that it has led to any large additional traffic—that it has induced larger quantities of wheat to be sent along the line? The Commissioners consider that that has been one of the means by which the increased area under grain has been created or fostered.
286. The cheaper cost of transport then has induced larger areas of cultivation? That must be the case. In fact, the reduction for long distance has been nearly 50 per cent.
287. If this line were made to Finley under what circumstances could we fear the loss of trade to the colony generally? Under present circumstances I do not see any fear. I think whatever grain is produced there must come to Sydney.
288. Can there be any inducement held out by the other colonies to attract it that way? I do not think so. As a matter of fact, three or four years ago they did hold out an inducement by giving a special rebate, but there was such an outcry that they had to drop it. Looking at the rates, I cannot see how the wheat traffic could be diverted to the other colony, from that district at any rate. 289.

H. McLachlan, Esq.
12 June, 1896.

289. Can you inform the Committee whether you are at present deriving any traffic from within a radius of 30 miles of the town of Deniliquin? I do not think we are.
290. Does not the whole of that traffic at the present time go to Victoria by way of the Moama Railway? Yes.
291. Is not the trade of that district at the present time entirely absorbed by the private railway from Deniliquin to Moama, and the Victorian railways? Yes.
292. If it were desirable on the part of the Railway Commissioners to obtain that traffic, any extension west of Berrigan must necessarily bring them more in touch with it than is the case at the present time? It might help us a little; but I would not be too sanguine about getting the general goods traffic from that district.
293. There is a large settlement for 25 miles west of Finley—agricultural and grazing; without any inducement on the part of this colony to touch that traffic, must it not be driven on to the semi-private railway to Moama and into Victoria? Yes; at the present time they get the whole of that traffic.
294. Then any extension west from Berrigan must have the effect of collecting at all events a portion of that traffic? It must help us to gain the traffic.
295. If you know of no reason why an inducement could be held out by Victoria to take the grain traffic from there, the inference would be that you would obtain the grain traffic, and would collect a portion of that traffic which is at present driven into Victoria by way of Moama? Yes; it would help us to get a little. I would not be too sanguine and say very much.
296. I suppose the war of rates is still going on between the Victorian Commissioners and our own Commissioners? The differential rates still exist.
297. But for years past the colony of Victoria has had railway possession of that portion of our colony? Yes; the extreme south.
298. And will continue to do so unless we offer facilities to our own people? Yes.
299. So that, after all, so far as the trade of the country upon which you base your calculations is concerned, it matters very little whether the lands are held by the Crown or by private individuals? That is to say, in both cases they will come under cultivation.
300. Is it not within your knowledge that, owing to the inducements and the assistance given by private owners, the land is coming under cultivation much quicker than could be the case if it were taken up as selections by ordinary individuals? Yes; the effect must be to encourage cultivation, and bring additional areas under crop.
301. Are not the station-owners assisting the cultivators under certain conditions? Yes.
302. Is not that having the effect of largely increasing the production of grain? Yes. In the county of Denison the production has doubled within a few years.
303. And it appears to be increasing? Yes. In 1895 that county alone produced 879,000 bushels, which represents a very large area.
304. *Mr. Clarke.*] It would appear that a great deal of the traffic from that part of the country now goes to Victoria? Yes.
305. If the extension from Berrigan to Finley is carried out, will not that carry the traffic still closer to the Victorian border? The railway will certainly be closer to the border.
306. Then it will not be a benefit to this colony if the line is taken nearer to Victoria than is the case at present? The gap that exists at present between the two railway systems in that part of the country is too great to permit of our agricultural produce being sent to Victoria.
307. I think you said that, owing to the tariff on the Victorian border, there was not much probability of wheat being sent into that colony? I do not think there is.
308. Is it not probable that, when the price of wheat in Victoria was low, wheat would come across the border into New South Wales if our market was higher than theirs? Yes; I should think that would happen. I do not say that it would come from this particular point, because there would be about 20 miles of road carriage, which in the case of grain is a big handicap. At present we get grain from Victoria by sea-board, the grain being produced on farms lying close to the sea. If the line were extended to Finley, I do not know that there would be any tendency to attract grain from Victoria.
309. If our market were higher than the Victorian market the grain would naturally come to New South Wales? Yes; but grain can be carried from the Victorian border to Melbourne for about 12s., and from there it could he brought to Sydney by sea at a fairly low rate. This would more than counter-balance the cartage from between the Victorian border and Finley. Locally grown wheat put on to the railway at Finley would certainly find its way to Sydney.
310. How do the Commissioners propose that the loss of £835, as shown in their report, shall be recouped? They propose special rates in order to bring about that result. It is likely, however, that there will be increased development which will make the line pay better. The Commissioners would not like to say, however, that the line would be a profitable one in two or three years.
311. But do not these reports of the Commissioners generally describe how the loss is to be made up? No. They have laid down the rule that where there has been a loss on a branch line, the increased traffic brought to the parent line by that branch would justify them in recommending its construction.
312. Ultimately you think that the line, if made to Finley, would go to Tocumwal? I would not like to say that. It is a matter that has not been considered. The question asked was whether an agitation would not arise, and no doubt it would.
313. The distance from Berrigan to Finley is 13 miles; if another line were made to Tocumwal that would be another 12 or 13 miles? Yes.
314. Would it not answer the public interest if a railway were made direct from Berrigan to Tocumwal a distance of about 15 miles? There is no proposal that I am aware of to extend the line beyond Finley.
315. *Mr. Humphery.*] Is it the view of the Commissioners that Finley should be the terminus of the line? That is their view at present; they have not considered any extension beyond Finley.
316. And the Committee in dealing with this proposal will have to consider it only as an extension from Berrigan to Finley, the latter being the terminal point? Yes.
317. Are you aware of the extent of settlement around Finley? No. I have not been in the district.
318. Do you know that in connection with the Jerilderie line certain information was obtained showing two areas—one 13,000 acres and another 10,000 acres, making a total area under cultivation of 23,000 acres of which Finley was the centre? No; I am not aware of the local circumstances.

H. McLachlan, Esq. 12 June, 1896.

319. And that there were thirty-six and fifteen farmers respectively, making a total of fifty-one farmers cultivating that area? The only figures I saw were those submitted by a deputation, showing the large growth of the district.
320. *Chairman.*] Have the Commissioners taken into consideration an extension towards the east in the direction of the Rock? No, I think not.
321. You have no statement with regard to that? No. I should think the extreme length of the extension would militate against it. The Commissioners have been asked to look at a line from the Rock to Urana.
322. How far is it from the Rock to Sydney? 326 miles.
323. And how far from the Rock to Melbourne? 250 miles.
324. As far as distance is concerned then the traffic would pretty well centre at Wagga? Junee is about half way. Wagga is nearer the Melbourne side.
325. Therefore, any junction with the southern line ought to be as close to that half-way point as possible, if you are going to take Sydney interests into consideration? Yes; it would be more likely to divert the trade this way.
326. Any distance beyond Junee the balance would be thrown in favour of what you regard at present as a rival system? Yes.
327. Do you regard the cost of land carriage between Finley and Yarrowean on the Victorian side as constituting an interval between the two systems sufficient to prevent undue competition? In the case of grain, yes.
328. With regard to wool, you are not quite so sure? No; because wool is an article that can stand a heavier cost of carriage, and the rates are much heavier.

TUESDAY, 23 *JUNE*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Charles James Roberts, C.M.G. | John Lionel Fegan, Esq.
Henry Clarke, Esq. | Frank Farnell, Esq.

The Committee further considered the proposed Railway from Berrigan to Finley.

John Harper, Esq., Goods Superintendent, Department of Railways, sworn, and examined:—

J. Harper, Esq. 23 June, 1896

329. *Chairman.*] Do you desire to make a statement? Yes. As is the usual practice, I will read a copy of the report which I made to the Railway Commissioners. It is as follows:—

11 May, 1896.

Estimate of traffic on proposed extension from Berrigan to Finley.

The length of this line is about 13 miles; estimated cost, £26,000.

By direction of the Commissioners I have again looked into the probable traffic on this proposed extension. It is well, perhaps, to draw attention to a report made by me on 26th November, 1894, to the following effect:—

"The distance between these two points on an air line is 12 miles, and therefore it is reasonable to suppose that the line could be built in 13 miles. From a point 8 miles west of Berrigan almost the whole of the land is leasehold, from Tuppal and Barooga Stations. Assuming, however, the cultivation continues on these two holdings as at present, the following is an estimate of the probable traffic which would be derived from an increased length of 13 miles of line:—

Goods Traffic.	£	s.	d.
At Finley—3,200 tons of wheat at 2s. 6d. per ton (not included in Berrigan estimate).....	400	0	0
General goods for whole distance from Jerilderie, 100 tons—			
36 miles at 3d. per ton per mile	45	0	0
50 tons, 8 miles, at 2s. 6d. per ton.....	6	5	0
400 passengers at 1s. 6d.	30	0	0
Parcels, &c.	10	0	0
Mails	156	0	0
	£647	5	0

Should the construction of this extension have the effect of securing the Tuppal and other clips in the vicinity, then 600 tons of wool, yielding a through rate to Jerilderie of £225, would require to be added to this and the Berrigan estimate, the proportion to be credited to the Finley extension being £52 10s., making the total estimate for the Berrigan to Finley extension £699 15s.

The inquiries made by me at this time were not as complete as I have since been able to make them; and I therefore submit the following amended estimate, premising that a *pro rata* extension of the arbitrary rate of 2s. 6d. per ton fixed by the Commissioners for the distance from Berrigan to Jerilderie would be applied to the distance between Berrigan and Finley. I may also mention that the wheat production of this district has increased, and that there is no doubt a portion of the wheat credited to the Berrigan extension would be delivered at points on the projected line. My estimate is—

	£	s.	d.
Wheat, 6,000 tons at 1s. 6d. per ton	450	0	0
General goods, 100 tons at 3s. per ton	15	0	0
Live stock, 200 trucks	40	0	0
Passengers, 400	30	0	0
Parcels	10	0	0
Mails	156	0	0
	£701	0	0

To this might be added, assuming the competitive quotation were given, 600 tons of Tuppal and other wool clips at 7s. 6d. per ton, £225. There is no doubt that this line will, to a certain extent, feed the Jerilderie line in the matter of agricultural produce, whilst the conditions of rates, &c., which prevail in Victoria continue to exist.

I may draw attention to the fact that the settlement of Finley is within 16 miles of the Victorian border, and that the carriage of either wheat or wool from any point to the south will largely be controlled by the conditions referred to.

330. *Mr. Roberts.*] You have a full knowledge of the locality where this proposed railway is to run? Yes.
331. When were you last over the route of the proposed line? In August last.
332. What area of country would be affected by this railway? It would have the effect, in my opinion, of making certain the whole of the traffic from a point 8 miles west of Berrigan, and for a distance of about 10 miles south-west. It would also control, I think, about 14 miles to the west—practically as far as Tuppal. I fancy that that would about represent the area that would be served. As a matter of fact, I have

J. Harper, Esq.
23 June, 1896.

have left Tocumwal out of my estimate altogether, because the road carriage between Tocumwal and Yarroweyah is so small that, for export wheat, I think the traffic would certainly go into Yarroweyah. From Tocumwal they would have about 16 miles carriage to Finley, as against only 8 to Yarroweyah.
333. How far south from Finley would this line get the wheat? I think about 8 miles. There is extensive cultivation between Berrigan and 8 miles due south of Finley. There is also extensive cultivation from the north to the same point, and extensive cultivation from Tuppal to the west.
334. I want to know what traffic the New South Wales railway system would get, which it does not get now, by this line being constructed from Berrigan to Finley? I do not know that we could get any Tocumwal traffic which we have not at the present time, but it is possible that we might get some traffic at Tuppal which we do not now get, and from the neighbourhood of Finley we should get traffic equal to the amount of my estimate—that is, instead of wheat being brought along the travelling stock route from Finley to Jerilderie, as at present, it would be delivered at Finley, which is, of course, an intermediate point.
335. Do you not get the Tuppal wool now? We had it one season.
336. Was that at a payable rate? Yes; it paid us the season we got it, but the owner of it wanted us to quote a lower rate for the next year, but it would not pay us to do it.
337. Is there not a heavy loss on the line from Jerilderie to Narrandera? Yes, unfortunately; but it is being made up to a large extent by the increased traffic which we are getting from the carriage of breadstuffs; the loss is decreasing in quantity.
338. Do you think that, through this line being constructed, the annual loss on the line to which I have just referred would be lessened? That is my impression. I think it would tend to bring more traffic on to the branch line.
339. Has the area under wheat cultivation increased during the last two years in that district? Yes.
340. Has it been accelerated by the construction of the line from Jerilderie to Berrigan? Yes; I think that has given it a distinct impetus.
341. I suppose that Berrigan is looked upon as being the centre of that wheat-growing district? Yes. In my opinion, from a knowledge of the district, it is, for the reason that there is a great deal of wheat land in the neighbourhood of Savernake to the south-east of Berrigan, and also due south, down towards Mulwala, there is a large wheat district, and practically the whole district between Berrigan and Finley consists of wheat-growing land under cultivation.
342. From what area do the farmers send their wheat to Berrigan? From Savernake.
343. What distance is that from Berrigan? I think it is about 14 or 16 miles. The Clear Hill farmers send their wheat by another road into Jerilderie. The farmers on the northern boundary of Barooga would also send their wheat to Berrigan.
344. Are there more farmers nearer to Berrigan on the proposed line of railway than at Finley? I cannot speak confidently, for I do not know the exact areas, but I should think there are.
345. If this line were constructed, do you think that the land about Finley would be taken up for wheat-farming? I think so. In the neighbourhood of Finley it is all very good wheat land.
346. Can you, from your own knowledge, say that the owner of Tuppal Station would be likely to lease out his land? Yes; I think he would, because he would make more out of that than out of sheep.
347. If your estimate were borne out, the line would show a loss of £835 per annum? Yes.
348. Can you give the Committee any idea what time would elapse before this line would become a payable line? No. It would be such a difficult thing to do. So much would depend on the inducements held out to the people to go in for cultivation for the purpose of giving increased traffic to it. I dare say that if wheat realised the same values as it did this year there would be a very strong inducement to considerably increase that estimate; but if, on the other hand, wheat went down to 2s. a bushel, I imagine that the inducement would not be very strong for people who do not own the land.
349. A good deal would depend on the wheat market? Yes. The people in the district under consideration are very different from the bulk of the settlers about Berrigan who own their own land. Of course, the system of half or any other shares, or the rental system, could never induce such a permanent cultivation as the other system.
350. Is the half-share system generally adopted in that neighbourhood? In the neighbourhood of Finley the land is principally owned privately, and is worked under that system, and on Momolong, between Berrigan and Clear Hill, they work under that system.
351. The proposed line would be a fairly level one, would it not? Yes; it should be an easier line than the Berrigan line. The ground is sounder, at any rate, along the road.
352. The land is very fertile? Yes; pretty well the whole of it is under crop from Berrigan to Finley, or it was when I was there.
353. Is most of that land held under lease? For about 8 miles due west from Berrigan they are chiefly selectors, but after that you get on to the leasehold areas of Tuppal and Barooga, where they have been working on the half-share principle.
354. Is there much cultivation to the north of Finley? Not immediately to the north.
355. It is principally between Finley and Berrigan? Yes.
356. Where do the Finley farmers send their wheat to at the present time? To Jerilderie they have been in the habit of sending it.
357. What distance is that from Finley? About 21 miles.
358. Are you in a position to say that they would send it to Berrigan, considering that there would not be a very great difference in distance? The difference is 9 miles. It is 12 miles by road from Finley to Berrigan, and 21 miles from Finley to Jerilderie.
359. Then you think that the whole of the wheat that now goes from Finley to Jerilderie by road would go by rail from Finley to Berrigan? I am inclined to think it would. The farmers in that district appear to have the idea that if it represents only a day's trip to a station there and back—that is practically 34 miles—it is not such a serious detriment as it is when they have to send their teams away for two days.
360. Would the farmers act differently if the wheat were to be ground in Jerilderie than they would if it were going on to some other place by rail from Jerilderie? I believe there might be some difference.
361. They might convey it by road if it were going to be ground at Jerilderie, but there is no doubt that they would put it on the railway at the nearest point if it were going further than Jerilderie? Yes.
362. Is there a flour-mill at Jerilderie? Yes.

J. Harper, Esq. 23 June, 1896.

363. And large quantities of wheat find their way into Jerilderie? Yes. I may say that I have a return up to May for this year. The year is not quite concluded. We have shipped from Jerilderie 99,000 bags this year, and I think there are between 40,000 and 50,000 bags at present being held in that district pending the completion of this proposed line.
364. Would that be at Berrigan, or right along the line? A great deal of it has been stacked at Berrigan. Permission has been given to the owners of wheat to stack it on the site of Berrigan Station, and they are waiting until the line is finished to forward it. That is exclusive of the flour dealt with at the Jerilderie mill. I may mention that it shows a very considerable increase on the quantity despatched during the previous year. Practically, the whole of the wheat was exhausted in May, 1894, and 1895, when 96,000 bags had been sent, whereas this year 99,000 bags have been sent already, and I am credibly informed that between 40,000 and 50,000 bags are waiting in the district.
365. Do you think that the increase in the quantity of wheat grown is to a large extent owing to the construction of the railway from Jerilderie to Berrigan? Yes; and also, to a certain extent, it is owing to the favourable conditions that have prevailed for the crops there. When I gave evidence here in 1894, I referred to the large quantity of wheat land then going into cultivation. My estimate was 150,000 bags of wheat, and apparently it will be more than realised.
366. Coming back to the question of loss, do you think that five years is a fair time in which to expect this line to become a paying line? It is very difficult to say. As I have stated, the entire thing would be contingent on the values obtained for produce. But that is an exceptionally favoured district in regard to soil, and getting the rainfall at the proper time.
367. What is the rainfall? Twenty to 21 inches.
368. A fall of 21 inches would be very favourable for wheat production? Yes; getting it at the periods in the year they generally do in that district.
369. What is the rate of carriage at the present time from Finley to Jerilderie by road? Nine shillings a ton.
370. What do you propose? Our proposed through route is 4s.—2s. 6d. from Jerilderie to Berrigan, and 1s. 6d. from Berrigan to Finley.
371. Would that charge of 9s. per ton be in dry weather? Yes; the roads are impassable in wet weather. The teams simply cannot go along them.
372. Is all traffic put a stop to in winter? I will read you what the output has been during each of the months of the year, and this does not necessarily mean that the whole of the wheat has been carried by road, because a great deal of it is stored at Jerilderie in summer and despatched as demand arises. In June, 1,488 bags; July, 3,033; August, 1,063; September, 1,617; October, 1,504; November, 792; December, 29,849; January, 33,531; February, 18,928; March, 3,291; April, 1,563; May, 3,072. But the greater part of that wheat despatched in winter is taken from stocks at Jerilderie.
373. Have the Commissioners been over this line? Yes.
374. In your company? I was with them.
375. The question had not been discussed then as to whether this line would probably be a paying line? Oh, no. As a matter of fact, the Commissioners were going over the line between Jerilderie and Berrigan, and they went round by Finley, and along the travelling stock route for the purpose of having a look at that side of the country, and they were met at Finley without any prior arrangement by a number of the residents there, who brought under their notice the matter of the line to Finley.
376. Can you tell the Committee on what ground the Commissioners recommend the construction of this proposed line in view of the loss of £835 per annum? Well, I take it that seeing the desire of the country is to build pioneer lines in good agricultural districts, this line is regarded as complying with those conditions.
377. And probably the extreme fertility of the soil? Yes.
378. And the probability of increased settlement taking place there? That is their motive, I think.
379. The Commissioners are very emphatic that the land through which the proposed line is to pass shall be given by the owners? Yes.
380. Do you think there would be any difficulty in that respect, or have you heard that the people are willing to give the land required? I think that, as a matter of fact, Mr. Faulkner made a definite offer of a chain of land, or whatever was necessary, as far as he was concerned. I do not know of any other.
381. Is Mr. Faulkner the proprietor of Tuppal Station? Yes.
382. Would the line go through a great portion of his property? Yes.
383. You think that a large increase in the farming population would take place there if this line were constructed? I think so. I think that the difference in the cost of getting their wheat to market would act as an extra inducement to people to settle there and cultivate the land.
384. Have you any doubt about it? I have none at all, so long as the prices remain favourable.
385. Did you form your estimate on the basis of the present population of the district? Yes; the population which was in existence there at the time I was there in August.
386. You have not allowed for any possibility or probability of increased population? No.
387. Have you put forward these figures as the result of personal observation, or are they taken from "Coghlan"? They are the result of personal observation, I knowing the area that was under crop at the time I was in the district within that radius of the line.
388. You have had large experience in submitting estimates for railway lines? Yes; I have had considerable experience.
389. And, as a rule, you make your estimate well within the mark? Yes; I always take particular care to endeavour to do that.
390. You think it is a fair thing to assume that within a few years settlement will increase around Finley, and that this line will become a paying one? If, as already stated, the conditions are favourable —that is to say, if too extravagant terms are not demanded by the owners of the land from their tenants, and the prices of wheat and farm produce remain pretty sound.
391. Would you care to give your own individual opinion as a man who has had a large experience? No; I would not care about saying any more than I have already said in my report, where I draw attention to the difference in the character of the settlement generally speaking in the neighbourhood of Berrigan and Finley. I hold that in cases where the land is in the hands of small owners, there is a stronger inducement to continue cultivation, even under adverse circumstances, than there would be where land is rented.

392.

392. And you feel sure that in the near future the line from Berrigan to Finley would be a paying one? I would not like to say that. With rented land like that the thing is so dependent on circumstances.
393. *Mr. Farnell.*] In your report you mention the fact of this proposed line having to pass through two holdings;—in what direction are those holdings? Both due west from Finley; about 8 miles from Finley the line would pass through those holdings.
394. Is that leasehold or freehold? I think most of it is secured. I think that evidence on that point was obtained before in connection with the Berrigan line. There is not much Crown land left in that district, but I cannot say how much.
395. You mean it is in the possession of only two people? Principally, but not entirely.
396. Do you think it is likely that the people who own those areas would be agreeable to allow settlement to take place on reasonable terms if this line were constructed? They are really doing it now. Those areas are occupied now by settlers. The question as to the terms being reasonable is, of course, another matter. I did not at the time consider that 5s. an acre was quite a reasonable rental, but I think it has been modified since.
397. You have said already that a great deal of settlement would be served by this line, and you are of opinion that its construction would conduce to a further increase of settlement in the district? Yes.
398. Have you had an opportunity of conversing with people in the district through whose lands this proposed line would run? No.
399. So that you cannot quote us any authoritative statement in regard to their disposition towards the Government so far as giving the land is concerned? No; the only case I know of is a voluntary offer on behalf of Mr. Faulkner, the owner of Tuppal, to give the necessary land.
400. For about what distance would this line run through Tuppal Station? About 5 or 6 miles, probably.
401. Supposing the people were not agreeable to give the land required, that would necessarily be a considerable item to be considered? Yes.
402. You think that if the land were given, the construction of this line would, commercially speaking, be a good undertaking on the part of the Government? I think so—that is, for the policy of building cheap lines for the purpose of inducing agricultural settlement I think it would be.
403. In connection with your estimate for this line, have you made any allowance for the erection of platforms at different points? The estimate of the Engineer-in-Chief includes all that is necessary.
404. How many platforms do you propose to have between Berrigan and Finley? There would be about two sidings I should think. They would not necessarily be platforms, but simply sidings.
405. And probably those would be worked by the guards? Yes; there would be no staff on the line at all, except during the wheat seasons.
406. Do you know what is about the acreage at present under cultivation in the district which would be served by this railway? This particular railway would serve from 18,000 to 20,000 acres of wheat land.
407. Would this line be the natural channel for the conveyance of the produce to Sydney, or to the nearest market? In view of the existence of the line from Narrandera to Jerilderie, and from Jerilderie to Berrigan, it certainly would be.
408. You have already told us the rate proposed to be charged between Finley and Jerilderie;—supposing settlers desired to send their produce to Sydney, could that be done on a payable basis? Yes; as a matter of fact the Finley people would pay only 3d. per ton more than the Berrigan people would have paid at the time that line was approved of. This is owing to the reduction of rates. When the Berrigan line was dealt with the cost per ton was 14s. 7d. from Jerilderie and 2s. 6d. from Berrigan to Jerilderie, making a total of 17s. 1d., whilst the present rate is 12s. 10d. from Jerilderie, 2s. 6d. to Berrigan, and 1s. 6d. to Finley, or 16s. 10d. as against 17s. 1d.
409. Are you aware whether sufficient wheat is grown in those districts to supply local requirements? Most decidedly. The great bulk of the wheat grown in those districts finds its way to the coast.
410. *Via* Sydney? Yes; *via* Sydney. But it is milled at various points along the line.
411. Does it find its way to Sydney in the shape of wheat or flour? As flour.
412. Do you know whether any quantity of flour is sent from the Sydney market to those parts of the country? There may be during a season like this, when the wheat crop has been comparatively short.
413. Only under those conditions? Yes.
414. You think, then, that the Sydney market would benefit considerably by the construction of this line? Yes; I think so.
415. But you think there would be a corresponding advantage given to the settlers in that district by their having facilities afforded them for trading with the city of Sydney? Yes; as a rule the conveyance of produce from different places is followed by the conveyance of stores to those places.
416. You think that the people there would purchase their supplies from the Sydney market? They would to a certain extent.
417. Do you think that the rates of carriage for this merchandise would not act prohibitively? No. As you will observe from my estimates, the rates are exceedingly low—an average rate of only 2½d. per mile added to the special rate for traffic going to Finley. It is really only a first-class rate.
418. You estimate there would be a loss of £835 per annum on this proposed line? Yes.
419. What is the estimated loss on the Jerilderie to Berrigan line? Practically the estimate of revenue is £10 over the annual cost. The estimated revenue is £3,083, and the annual cost is £3,073.
420. By the construction of the Jerilderie-Berrigan line the main line will receive a great advantage in the shape of extra traffic going over it? Yes.
421. Will that also be the case in the construction of this line? Yes; as a matter of fact this traffic will also pass over the Berrigan extension, and beyond that—that is to say, that wheat at the present time going along the travelling-stock route will give 1s. 6d. per ton on this proposed line, and 2s. 6d. per ton on the Berrigan to Jerilderie line.
422. Do you think the construction of this line would be the means of diverting any of the traffic which at the present time is carried over the Victorian railways? It might. But I think the principal consideration is, that Tuppal wool and stores—which are not included in my estimate—would mean an additional £225 a year revenue.
423. You appear then to have based your calculations on the production of wheat alone? Wheat, live stock, and other goods. I may say that our experience last year shows that the estimate of live stock would very probably be exceeded in any season approaching that of last year. We carried for one firm alone

J. Harper, Esq. 23 June, 1896.

250,000 sheep from stations on the Jerilderie line, and between Narrandera and Hay. I think that, of those about 80,000 came from the Jerilderie line, showing that in seasons, such as will sometimes occur here we should carry even more than the amount which I have estimated. I have only estimated 200 trucks of stock altogether for this line, and, practically, that is only 20,000 sheep.

424. Did you make any special arrangements as to the price to be paid for the conveyance of those sheep last year? No.

425. I believe the Commissioners have power to make such arrangements? Yes; if necessary.

426. If this line were constructed, is Tuppal the only station with the owner of which you could make special arrangements for the conveyance of wool? That is the only station where you could be successful in doing so. All the other stations, with the exception of those immediately bordering on the river, now send their wool to Sydney.

427. How many trains do you propose to run on this line? About three a week—the same as on the Jerilderie line. It might be necessary in the case of heavy live stock or wheat traffic to run more, but, as a rule, we should not run more than we do now on the Jerilderie line.

428. In your estimate you take into consideration an amount for the carriage of mails;—what does that amount come to? It is £12 per mile over the whole system.

429. Are you satisfied that the estimate of revenue is a fair one? Yes; I consider it is a fair one—not by any means an unreasonable one.

430. Not likely to be exceeded? Well, it might be if we got the Tuppal wool. That would mean £225 more.

431. Do you think that the estimate of working expenses might be exceeded? Of course that estimate is given by the Commissioners, but if the traffic became heavier, and necessitated increased expense in working, we should get a corresponding advantage in increased revenue.

432. *Mr. Clarke.*] I think you said that you are thoroughly acquainted with the whole of this district from personal observation? Yes.

433. You were there in company with the Commissioners? Yes. I have also been over the district by myself on several occasions.

434. Are there many settlers or farmers in the immediate locality of Berrigan and Finley? Yes; there are settlers the whole distance along the road, and for 7 or 8 miles back from the road, between Berrigan and Finley, and there are also a number of settlers between Finley and Tuppal.

435. What are the principal crops grown? Wheat. Some of the farmers have gone in for the cultivation of fruit and other crops, and most of the selectors who own land about Finley also have sheep as well.

436. Do they grow barley? Yes; but barley has been grown more for experimental purposes, I think, than for anything else.

437. You principally depend on the wheat for traffic;—where does it generally go to? Well, it is distributed along the whole of the Southern line. I have not a statement for this year, but I have one for last year which will give you a general indication of the principal centres to which it is distributed:—Darling Harbour, 5,600 tons; Granville, 2,196 tons; Wagga Wagga, 2,000 tons; Narrandera, 4,000 tons; and so on.

438. I suppose some goes to Goulburn? Yes; this year less went to Goulburn from that particular district.

439. Those are the chief intermediate markets on the way to Sydney? Yes.

440. Is the land which the settlers occupy in the immediate neighbourhood of this proposed line their own selected land, or does the land belong to large landowners? In the immediate vicinity of Berrigan, and for a distance of 8 miles out of Berrigan, in the direction of Finley, it is all in the hands of selectors who have selected on the runs originally, and have retained possession of their holdings.

441. The Tuppal run is, I suppose, chiefly in the hands of the proprietor? Yes.

442. Do you think that, in the event of this line being made, any portion of that run would be leased by the proprietor of that run, and worked either on the half-share principle or rental? I think a great deal of it would. A great deal of it is already, under existing circumstances.

443. It would be to the interest of the proprietor, I presume, to open up the land? Yes.

444. Instead of keeping it for grazing purposes? Decidedly; especially if he could realise 5s. an acre for it, as he was doing.

445. In that case, I presume it would make very little difference whether the land was retained in the hands of the present owner or thrown open for occupation by settlers? No. The only thing, as I pointed out before, is that unless the terms are very favourable the man owning the land himself would be likely to take more out of it than a man would take out of rented land.

446. And ultimately it would be in the interest of the landowners there to have it cut up? Oh, yes, decidedly. I heard that the proposal was to exchange the land. The evil of the system I saw when I first went there was that the land was let to a number of people in comparatively small holdings, and they had to farm every acre of it, and were practically exhausting it, but I believe the proposal now is to work it for a certain period, and then put it under lucerne, and give the men new land on which to carry on their operations. Owners who had 200 or 300 acres had to farm every acre each year.

447. What portion of the wheat and other cereals grown there would go to Victoria? That immediately on the Murray, I think, would go to Victoria. The farmers there would pay the rates, and I fancy even a heavy duty, rather than cart it.

448. It could be sent in bond either for export to England or to come back to New South Wales? Of course it could be, so far as the duty is concerned, but I do not think that it would come back into New South Wales. I fancy that the Customs regulation now rather restricts the possibility of doing that. It has to be "identified" wheat; it cannot be held at all.

449. Would the carriage to Melbourne be lower than the carriage to Sydney? No; not from this particular point. The carriage from Yarroweyah would be 15s. a ton, to which would have to be added from 20 to 24 miles of road carriage.

450. You think that the loss of £835 per annum would in a few years be reduced? Yes; I think there is very great hope of it in a district like that.

451. By increased settlement and larger quantities of produce or grain being sent along the line? Yes.

452. Are there any flour-mills in the immediate neighbourhood of Jerilderie? No. The one at Jerilderie is the only one in New South Wales until you get to Deniliquin and Narrandera. There is also one at Corowa, and one at Mulwala.

453.

J. Harper, Esq.

23 June, 1896.

453. But whatever wheat was ground into flour, except that required for local consumption, would naturally find its way to Sydney? Yes.
454. On the whole, you are of opinion that it would be desirable to have this line constructed, taking everything into consideration? Yes, I think so; taking into consideration the policy of opening up the country for settlement. I think it is a line that would create settlement.
455. From where do the people now generally get their supplies—machinery and everything of that kind? From Victoria, chiefly.
456. They have hitherto done that, even before the alteration in our tariff? Yes. Exceptionally favourable rates were given by the Victorian railway authorities. They differentiate, I think, as much as 46 per cent. in favour of people in that locality as against the people of Victoria.
457. *Mr. Fegan.*] From your evidence, I understand you to be favourably disposed towards the construction of this line? Yes.
458. On the ground that, although you admit it will not pay at the present time, there are hopes that in the very near future this line will not only pay the annual working expenses but also give a fair return, and be able to help the Jerilderie to Berrigan line out of the loss sustained at the present time? Yes.
459. Are the conditions of this line equal to the conditions of the Tamworth to Manilla line? No; I do not consider that they are so good, because the Tamworth to Manilla line has such a splendid district behind it to support it, and with no competition.
460. If this land were freehold, you would naturally support the construction of this line more keenly than you do at the present time? Most undoubtedly.
461. There is a drawback at the present time—the land not being freehold, it does not offer the same inducements to people who go and settle on it? No, it does not. The people who have their own land in that district have enough to farm profitably and properly.
462. Do you think that if this line were constructed to Finley it would be the means of inducing people there to get their supplies from Sydney instead of from Victoria? It would to a certain extent, but only to a limited extent.
463. I suppose, as a matter of policy, you cannot see your way clear to reduce the rates further, in order to give greater facilities to those people? No; we are not prepared to do as the Victorians do—differentiate against our own people.
464. What has been the most important factor in the development of that part of the country;—would you entirely put it down to the railway? No; Berrigan started the development—that is, the first portion of that country which developed—some five or six years ago. A number of enterprising young Victorians went there, took up land, and stuck to it.
465. Do I understand you to say that a great factor in the development of that part of the country is the fact that the Victorians have gone there and taken up the land? Yes; Victorians, South Australians, and Tasmanians have gone there, knowing how to farm, and seeing the quality of the land there, and desiring to have larger areas under better conditions than they could get in their own country.
466. Under ordinary conditions they considered it was favourable? Yes.
467. And with the railway, and their practical knowledge of farming, that district has been developed in the matter of agriculture? It is practically the granary of New South Wales as regards the production of wheat.
468. Is it not a fact that in connection with the proposal to construct the line from Jerilderie to Berrigan several representations were made as to the necessity of continuing the line to Finley? Yes; to the Public Works Committee.
469. At that time, did not a deputation wait on the Minister for Works, and ask him to continue the line to Finley? I have not seen the official records, but I think I have read in the reports that such was the case.
470. As has already been stated, there would, for a while, be a loss to the extent of £835 a year on this line? Yes.
471. I suppose you would not see your way clear to recommend the construction of this line unless you saw the possibility of its ultimately paying? No; if I were assured there would be a definite loss of that amount for ever and ever I would not have spoken of it in the terms I have. But I know the great resources of the district, and I have hopes that the line will eventually repay the trifling amount of loss that will be incurred in connection with it.
472. And with the greater amount of traffic you would give greater inducements to the people there? Decidedly.
473. It is only when you have a limited amount of traffic you have to draw a hard and fast line? The arbitrary line is drawn only until the railway pays, and of course when it pays the people there get every advantage that other people get on the through line.
474. Which is the chief product there? Wheat.
475. Is the land suitable for fruit-growing? Yes; I have seen splendid fruit there, and I think it will be a great dairying district.
476. Is much dairying done there now? No.
477. But you think there would be a development in that direction? Yes. On the other side of the Murray corresponding land is entirely used for dairying purposes.
478. Do you think it would induce some of our Victorian neighbours to become customers of ours? No. They manufacture so much themselves that I do not think we could expect them to become our customers, but the people in this district would, I think, find a market in our own colony, or would export. I believe it would be a good dairying district.
479. I suppose the land there will grow almost anything? Yes. The lucerne, where it has been properly cultivated there, does as well as any I have seen anywhere in the interior.
480. There is a good rainfall? Yes; 21 inches, which is quite enough.
481. *Chairman.*] Where is the Victorian rebate line in relation to Finley? The Victorian rebate line is, approximately, from Jingellic West in the direction of Savernake, and cutting the Jerilderie-Berrigan line about midway. North of that line the rebate is equal to 46 per cent.
482. Therefore, the country which you have described as fed by this proposed railway line is cut by that rebate line? Yes.
483. The northern part is subject to a rebate of 46 per cent., and the southern part to the Victorian rates? Yes.

J. Harper, Esq.

23 June, 1896.

484. To what class of goods does the rebate apply? It applies to everything the railways carry, except agricultural produce. It includes wool.
485. What would be the freight from Yarroweyah to Melbourne per ton of wheat? Fifteen shillings.
486. Is that the ordinary rate? Yes. I may state that in 1894 provision was made by the Victorian Railway Department whereby they gave a rebate of 15s. on wheat if grown within 15 miles north of the Murray, and a rebate of 4s. if grown more than 15 miles away; but within about six weeks after this rate was introduced such on outcry arose among the Victorian farmers that the Victorian Railway Department had to abandon it, and it has never been allowed since.
487. How much on wool? That would depend on where it was grown. It would be about 32s. 6d. per ton from Yarroweyah to Melbourne. That includes the rebate. The through rate from Yarroweyah to Melbourne would be about 42s.
488. Fifteen shillings is the ordinary rate for agricultural produce from Yarroweyah to Melbourne, and the rate for wool grown north of the rebate line described is 32s. 6d., and south of that it is 42s.? Yes.
489. According to your special conditions from Jerilderie to Berrigan and Berrigan to Finley, what would be the freight from Sydney to Finley for agricultural produce? 16s. 10d.
490. What would the land carriage from Finley to Yarroweyah be? About 12s. 6d. to 14s. a ton—probably 12s. 6d.
491. The Victorian railway has 1s. 10d. the best of you to Melbourne, taking the terminal points of the two systems as being Yarroweyah and Finley? Yes.
492. But the land carriage being 12s. 6d., the traffic for export would very likely split a little north of Tocumwal? Yes; about 8 or 9 miles from Finley.
493. Taking it for granted that the distance is 14 miles to Tocumwal, and 8 to Yarroweyah, therefore 4 miles north of Tocumwal the traffic is split? Yes.
494. What is the duty on wheat in Victoria? It is rather a curious thing that I have asked nearly every miller and custom-house agent in Sydney, and each one tells me something different. Three shillings a bushel on wheat was the last information I got—from Gillespie Brothers, who are Victorians, and should know—and £5 a ton on flour. But Wise Brothers told me 2s. a bushel on wheat and £3 a ton on flour. However, I think that Gillespie Brothers are correct.
495. Therefore, it follows that no wheat is likely to leave our own lines for consumption in Victoria? No.
496. Any that leaves the line will clearly be for export? Yes; I think that probably Gillespie Brothers meant 3s. per cental duty on wheat and £5 per ton duty on flour.
497. What is the rate for the carriage of wool from Finley to Sydney? We have a special rate for that.
498. What is the rate for the carriage of wool from Jerilderie to Sydney? We also have a special rate for that.
499. Well, from Wagga Wagga to Sydney? £2 18s. 6d.
500. Therefore, the freight from Wagga Wagga, which is a considerable distance nearer to Sydney than Finley is—over 100 miles nearer to Sydney—is more than the freight from Yarroweyah to Melbourne? Yes.
501. Therefore, if your rate to Wagga Wagga is a reasonable one, your rate to Finley would have to be materially lessened to compete with the Victorian railways? Yes.
502. What is the rate for general goods from Yarroweyah to Melbourne? Third-class goods, 90s. 8d.; second-class goods, 68s. 9d.; first-class, 55s.
503. Approximately a mean of 71s. 6d.? Yes.
504. Can you tell us your rate for general goods to Jerilderie? That would be £5 per ton. But then we carry certain items which are included in the class of goods carried on the Victorian lines—sugar, galvanized-iron, fencing-wire, and things of that kind—which we carry in truck loads of 6 tons each at £20, that is £3 6s. 8d. per ton.
505. Is that a fair comparison with the Victorian charge of £3 11s. 6d.? Yes; for those classes.
506. Could the New South Wales railways deliver general goods, if the line to Finley were constructed, about as cheaply as the Victorian line can deliver from Yarroweyah to Melbourne? I do not know that we could, but we might. It would be a question of readjusting the rates.
507. Is the case with regard to the two railway systems this: that you believe that the wheat for export will probably go to Victoria, and the wheat for home consumption will come along the New South Wales railways, whilst with regard to general goods it appears probable that you will be able to compete with the Victorian system, and that with regard to wool you could compete with the Victorian system only with a special agreement? Yes; that is precisely the case.
508. As you get west beyond Tuppal you commence to feel the influence of the Deniliquin-Moama line? Yes.
509. Can you tell us the rates for wool and general goods from Melbourne? They are all cutting rates.
510. You have already stated that the influence of the Deniliquin-Moama line extends beyond Tuppal? Yes; from anywhere in the neighbourhood of Conargo, and north of Tuppal, that line would control the wheat traffic as far as Tuppal, and Tuppal is about 14 miles from Finley.
511. Beyond that, you commence to feel the influence of the Deniliquin-Moama line? Yes.
512. Can we reasonably estimate the rates you have given to Yarroweyah as being similar to those from Melbourne to Moama? You may, for practical purposes, regard them as the same to Moama, and then you have the Deniliquin line to add to that.
513. If we add Melbourne-Yarroweyah to Moama-Deniliquin, we get a fair idea of what the competition would be? Yes.
514. The three competitors would be the Deniliquin line to the west, the Victorian system to Yarroweyah to the south, and the possibility of road carriage to Jerilderie in the north? Yes.
515. Are you prepared to express an opinion as regards the extension of this line towards the Rock? No.
516. If a line be eventually made from Finley to the Rock, this would form a portion of it? Yes.
517. You in your statements view it simply as a local line between Berrigan and Finley? Yes.
518. But it might eventually form portion of the Rock line? Yes; it might.
519. You are not in a position to express an opinion in regard to the possibility of that line being constructed? No.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

RAILWAY FROM BERRIGAN TO FINLEY.

REPORT.

THE Sectional Committee appointed on Tuesday, 14th July, 1896, to inspect, take evidence, and report with reference to the proposed Railway from Berrigan to Finley, have the honor to report to the Parliamentary Standing Committee on Public Works as follows:—

The Committee, consisting of the Hon. D. O'Connor, M.L.C., Frank Farnell, Esq., M.L.A., and Geo. Black, Esq., M.L.A., left the Redfern Railway Station by the 9 p.m. train on Friday, 17th July, 1896, and arrived at Berrigan at 1 p.m. on Monday, 20th July.

The Committee opened their inquiry at 2·15 p.m. on 20th July, at the "Federal Hotel," Berrigan, when Frank Farnell, Esq., M.L.A., was elected Chairman, and where various residents of the township and district, including farmers, storekeepers, station managers, and the local bank manager, were examined.

The Committee met again on the following day at 11 a.m., and took evidence up to 1 o'clock, and sat again in the afternoon until 4·30 p.m.

On Wednesday, 22nd July, the Committee, before leaving for Finley, inspected the route proposed for the line through the township of Berrigan, and were then driven to Finley, making a thorough inspection of the proposed route throughout, and arriving at Finley at 1 p.m. The Committee met on the same day at Burbury's Hotel, Finley, to take evidence. A number of witnesses, chiefly farmers and property-holders to the east, west, north, and south of Finley, were examined, the sitting lasting until 5 p.m.

The Committee met again at 10 a.m. on Thursday, 23rd July, and examined a number of witnesses, some from near Tocumwal and Deniliquin; and again at 2 p.m., when additional evidence was taken, and subsequently were driven by some of the principal residents through the district, in the direction of Deniliquin, and towards Jerilderie. An inspection of the proposed site for the railway station was also made. On returning to Finley further evidence was taken, and the Committee adjourned at 5·30 p.m.

On the morning of Friday, 24th July, at 9 a.m., the Committee met and decided to go to Tocumwal by a route some distance from the ordinary coach road, which would enable them to inspect more thoroughly the settlement in the district, and also a valuable granite reserve in the neighbourhood of Tocumwal, of large area, which might be utilised for ballast purposes. The Committee arrived at Tocumwal at 12 o'clock, and having made some informal inquiries there, left in the afternoon for Yarroweyah, where, at 3·30 p.m., train was taken for Seymour, which was reached at 8·30 p.m.

The Committee met at the "Terminus Hotel," Seymour, at 8 a.m. on Saturday, 25th July, to consider their report, and adjourned at 9 a.m., when train was taken for Sydney, the further consideration of the report being resumed on the journey, the Committee arriving in Sydney at 6·15 a.m. on Sunday, 26th July; the report being finally considered and adopted on Tuesday morning, 28th July.

The

The construction of the line from Berrigan to Finley has been recommended by the Railway Commissioners on these grounds:—(1) That, in view of the character of the country and the absence of made roads, the settlers of the district were entitled to improved means of communication; (2) That the special fitness of the land for agricultural purposes, and the construction of the railway from Jerilderie to Berrigan, with the hope of its extension to Finley, had largely increased settlement during the last eighteen months; (3) That with the construction of a railway to Finley still further settlement would take place, and a much larger area would be placed under crop, with the result that large quantities of grain and other produce would be carried over the feeder, and thence by the main trunk line to Sydney, the sole market for the district.

The evidence taken by the Committee confirms the anticipations and statements of the Railway Commissioners in every particular. Prior to the arrival of the Committee in the district there had been a very heavy fall of rain, and during their stay a slight fall was experienced. Under these circumstances the roads were found to be almost impassable, great difficulty being experienced in passing from one town to another, and from inquiries put to teamsters *en route* it was made evident that during such periods a team of twelve bullocks could only with extreme difficulty drag a load of 3 tons. Under such adverse circumstances the rates of carriage are very high, and therefore the development of the district is to this extent so much retarded. The Committee, therefore, are of opinion that the nature of the soil renders the construction of either a road or a railway an absolute necessity. The contour of the country being favourable to railway construction, and metal for road-making not being readily obtainable, while the character of the soil would make the upholding of roads very costly, the Committee are satisfied that a light line of railway would initially cost little more than a road, while its maintenance would cost considerably less, and its direct return to the State, growing with years, would in time recoup the Treasury for its primary expenditure and return a fair annual revenue.

With regard to the second ground of the Railway Commissioners' recommendation, the Committee find that the country has been recently invaded by a horde of intending settlers, chiefly from Victoria, and that while many of these have been enabled to settle in the district, principally by taking up land on the halves-system, a much greater number would ere now have made the district their permanent place of abode if land had been more easily available. In confirmation of this statement, it is in evidence that over 2,000 applications were made for seven blocks of land that were thrown open. In this connection, the Committee might point out that the Minister for Lands would wisely throw open for settlement some, if not all, of the water, timber, and stock reserves throughout the district. In particular might be mentioned the travelling stock reserve extending from Tocumwal to Jerilderie. Of this area, 40 miles long and 1 mile in width, at the utmost half would be ample for its gazetted purpose.

One thing has struck the Committee as being remarkable: In face of certain circumstances which were supposed to be prejudicial to the agricultural interest, the Committee have discovered, from the evidence of farmers, and the comparison of their statements with those furnished to the Sectional Committee who visited the district in January, 1895, that the increase of area of land under crop has been phenomenal. Hardly a witness was examined who had not, animated by the fresh facilities for transit about to be given by the construction of the Jerilderie to Berrigan railway, and in hope of the further advantages to be conferred by the extension to Finley, doubled his area under crop; many of the witnesses had trebled their cultivation area, some had quadrupled it, and some had quintupled it; and in no known instance has a diminution of the area under crop been made.

With reference to the third point, the evidence before the Committee, combined with the high opinion formed of the industry, "push," and hopefulness of the settlers in the district, lead them to believe that the mere calling of tenders for the Berrigan to Finley railway would result in every foot of land now available being immediately cleared for the reception of seed.

With regard to the departmental estimate of traffic, the Committee have no doubt that this has been in no way over-stated. On the contrary, the evidence goes to show that the number of passengers has been considerably under-estimated,

and

and that the returns from the carriage of wheat, unless bad seasons intervene, are likely from the first to be double the amount set forth in the departmental statement. Possibly the latter has been under-estimated because it was thought that wheat consigned from the neighbourhood of Tocumwal to Sydney would be carried *viâ* Melbourne; but it has been made evident that, with the construction of the proposed railway and an alteration of local business arrangements, little or any of the wheat-yield is likely in future to cross the Murray. Under favourable circumstances, as high a return as 34 bushels per acre has been obtained, and all this crop (except the small quantity locally consumed) would find its way over the railway to Jerilderie from an area which would extend on the westward 20 miles—that is, within 10 miles of Deniliquin; on the northward from 8 to 10 miles, in the direction of Jerilderie; on the eastward about 5 miles, or about one-third of the distance towards Berrigan; while towards the Border the whole country will be tapped to Tocumwal due south, and as far as Barooga on the south-east, and very nearly to the Deniliquin-Moama line on the south-west. This applies to stock as well as to cereals.

With regard to the inward traffic, it appears to be the custom of the residents in Jerilderie, Berrigan, Finley, and Tocumwal, even if their supplies be purchased in Sydney, to convey them, especially goods of a bulky or weighty character, by water to Melbourne, and thence by railway to the Border. Some of this traffic will, in all probability, never be diverted to the direct line from Sydney; but with more extended means of communication and a largely-increased and ever-growing export trade with that city, it would appear that old business associations will eventually be disregarded, and the capital city of this Colony become the overland depôt of supply for this district.

The Committee believe that this railway can be very cheaply constructed, the route proposed presenting no engineering difficulties, requiring no bridges, and being almost on a dead level, necessitating very light earth-works and only a few culverts.

Having regard to the course recommended for the proposed line the Committee are of opinion that some expense in the matter of severance might be saved, and the convenience of the settlers better consulted, in that one road instead of two would be crossed, were a slight deviation made from the proposed route by not leaving the main road at the corner of Robertson's section—No. 68—but by following a straight line until reaching the border of Phipps' holding, and thence making the deviation through Phipps' second paddock to the fenced road. In all other respects the surveyed route meets with the approval of the settlers, and has not been discovered faulty by the Committee.

Careful inquiry has been made into the *pros* and *cons* of the necessary resumptions. At the Berrigan end, those settlers who see no benefit in the railway being carried past them to Finley, and also those townspeople who think it would be to their detriment, will require to be compensated, not only for resumptions but also for the injury which would be caused to their properties by severance. By personal examination of those settled on the road frontages between Berrigan and Finley, it was discovered that the bulk of them, on both sides of the line, are prepared to give their land either free of cost to the State or in return for areas of corresponding value to be taken from Crown lands abutting on their properties. In cases where monetary compensation would probably be demanded, the land is worth from £4 to £5 an acre, and the Committee are of opinion that the total cost in such cases is not likely to exceed £100. In the matter of severance, for which a demand might be made in two or three cases, it is more difficult to arrive at an estimate, but the sum total in this matter cannot be a very large one.

Taking into consideration all these favourable circumstances, and having thoroughly weighed the *pros* and *cons*, and seeing that Finley is the natural centre of a large tract of arable country which may eventually become one of the most prosperous districts in New South Wales, the Committee have decided that its necessities and prospects entitle it to railway communication with the metropolis. If deemed advisable that this may be demonstrated without fear of failure, the construction of this railway need not be entered on until the Jerilderie-Berrigan line has had one season's trial to show the capabilities of the district.

The

The Committee have also decided that the possibilities of the line would be increased were the fine arable country on Tuppal Station resumed by the Government, prior to its construction, and thrown open for settlement, instead of, as now, being available for agriculture only on the halves or the leasing system. Were such a course followed the enhanced value given to the land by the facilities of railway transit might be partly utilised to recoup the State as rent, while the remainder of the enhanced value might be used as a further inducement to intending settlers.

Whether this railway be constructed soon or late—for inevitably it must be constructed—the Committee are of opinion that the spectacle of 50,000 bags of wheat awaiting transit on the proposed site of the railway station at Berrigan, and the knowledge that many of the granaries and woolsheds of the district are filled with products awaiting the completion of the line to that town, afford a valuable object lesson for those who have the drawing-up of railway contracts. If it be not deemed advisable by the Government to construct its own railways, then all contracts ought to be so worded that non-fulfilment of the conditions should be accompanied by heavy penalties so strictly enforced that these national works would not be dallied with for the purpose of increasing profits by delays which might result in getting either labour or material more cheaply than was possible when the specifications were made out, to the detriment of those who had entered into engagements based on the belief that the terms of the contract would be rigorously adhered to.

FRANK FARNELL,
Chairman.

Sydney, 28 July, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

RAILWAY FROM BERRIGAN TO FINLEY.

TAKEN BEFORE THE SECTIONAL COMMITTEE.]

MONDAY, 20 *JULY*, 1896.

[*The Sectional Committee met at the "Federal Hotel," Berrigan, at* 2·15 *p.m.*]

Present:—

FRANK FARNELL, Esq. (Chairman).

The Hon. Daniel O'Connor. | George Black, Esq.

The Sectional Committee proceeded to consider the proposed Railway from Berrigan to Finley.

Mr. William James Greggery, farmer and grazier, Berrigan, sworn, and examined:—

Mr. W. J. Greggery. 20 July, 1896.

To the Chairman: I am a resident of Berrigan. My sons have been residents here for 14 or 15 years. I was not exactly living in Berrigan, as it is now, at that time, for I had a little property further down which I sold, but my knowledge of this district dates back to 1881. I have a knowledge of the proposed route for this railway. In our application for the construction of a railway from Jerilderie to Berrigan we claimed 8 or 9 miles from Berrigan towards Finley as being *bonâ fide* settlement, the majority of the original selectors still being in occupation of the land. Over that 8 or 9 miles the settlement is pretty close. Beyond that there is a large estate which is worked on the share system. But although the area within 8 or 9 miles of Berrigan, towards Finley, is under a different class of occupation from the land between that point and Finley, I do not wish to convey to the Committee the idea that agriculture is not carried on quite as well on the other side of that area as it is within it; but in our application for the Jerilderie to Berrigan railway, we claimed that area of 8 or 9 miles as a supporter of the Jerilderie-Berrigan line. Up to within 8 miles of the township of Berrigan the people are free selectors, but beyond that point, towards Finley, they are land-holders, on the Tuppal Estate. I anticipate that the traffic from the area extending 8 or 9 miles from Berrigan would act as a feeder to the Jerilderie-Berrigan railway. Supposing that the proposed line from Berrigan to Finley were constructed, it would not be patronised by any of the settlers within 8 miles of Berrigan, because they would support the Jerilderie-Berrigan line. They told the Railway Commissioners that if a line were constructed from Jerilderie to Berrigan they would send their produce to Berrigan. People living within 8 miles of Berrigan, towards Finley, have not sent their produce to Berrigan, but to Jerilderie, by means of a cross-road that joins the Jerilderie-Berrigan road somewhere about Wonnamurra. Beyond the 8 miles pretty well all the traffic has been taken along the travelling-stock route. So a good deal of the traffic that used to go to Jerilderie will in future be diverted to Berrigan. My impression is that even without a railway from Berrigan to Finley, all the traffic within 10 or 12 miles of Berrigan will come to Berrigan. All the country for 8 miles towards Finley from Berrigan is good. I think that the average yield of wheat is from 15 to 17 bushels per acre. I believe there are very few areas that belong to the Crown that could be thrown open for settlement—that almost all the available areas between Berrigan and Finley are alienated. Supposing that the proposed railway from Berrigan to Finley were constructed, there is a very large estate—the Tuppal holding—which might be thrown open for settlement. This railway would run 8 or 9 miles through that holding. I think that this district first came into notice as an agricultural district after the passing of the Land Act of 1880. A few selections were taken up in 1881, and a small acreage was brought under cultivation. The result was so good that it induced people to go in largely for cultivation. One of the largest and earliest cultivators on the other side of Finley, Mr. McAllister, is now present. At Berrigan I think I myself was the first. In or about the year 1884 I had about 250 acres under cultivation. After the passing of the Land Act of 1880, the district came into prominence as being very well suited for agriculture, as was proved by the land which was brought under cultivation; selection took place very rapidly, and I am glad to say the majority of the people who selected are here now. With the change of proprietorship of the Momolong holding there came about a different feeling from that which had previously existed. The original proprietors of that holding were simply sheep-owners; but their successors seemed to favour agriculture, and under their auspices agriculture made a rapid advance in the district and has progressed since by leaps and bounds. The whole district is now a wheat field. I think there is a continuous course of settlement from here to Finley; I believe there is hardly a break, and it is the same on the eastern side, towards Corowa. With a favourable season, I think that there will be an immensely larger yield of wheat next season. We have also had some samples of flax grown here, and the experts have spoken very highly of it, and there is not the slightest doubt that if the irrigation proposals made by Sir Henry Parkes were carried out here, we could grow anything. We have the climate and the soil, and all we want is the water. We are subject to periodical droughts, which pull us back. Oats have been grown in this district with very great success; ten to eleven bags to the acre, I think is about a fair thing, when the ground is well cultivated. I believe that people are only too anxious

Mr. W. J. Greggery. 20 July, 1896.

to settle in the district. There have been many applications to private owners for areas in this district—I may say hundreds for each portion to be let. The applicants came principally from Victoria. I have seen the plan in connection with the proposed railway extension to Finley. The line will pass through a number of small holdings. I am not able to say whether the people who own that land are willing to give it free for the purpose of railway construction, neither am I prepared to answer your question as to whether that land might be acquired at a reasonable cost by the Government. I have not attempted to form an estimate of the traffic that comes to Berrigan at the present time from Finley and district. Just now the traffic is small, but in the summer months, and during grain time, the traffic to Berrigan will be very great after the construction of the line from Jerilderie to Berrigan. Hitherto it has been diverted by cross-roads, saving some mileage towards Jerilderie. I do not think that one of the crops grown in this immediate district is sent to Victoria, but down south, nearer Cobram, though the dilatoriness in connection with the construction of the line from Jerilderie to Berrigan a few have been sent lately to Victoria, also to Tocumwal—but that is a port. A quantity of wheat as well as wool is water-borne from Tocumwal, and of course we cannot compete with water carriage; and the natural inference is, that traffic will drift to where cheap carriage can be obtained. I have not considered the question as to whether it would pay the Finley settlers to send their produce to Sydney *via* Berrigan. That is outside my province; I merely look after myself. I am very sorry to say that most of the produce grown in the district last season is now stacked at Berrigan awaiting the opening of the Jerilderie-Berrigan Railway, which was to have been completed by 25th July instant. Its ultimate destination was Sydney. For wheat and other produce sent from this district, and the Finley district, to Sydney, Jerilderie has been the station of departure, excepting the year before last, when we got a concession from the Victorian Government, when our roads were very bad, which allowed us to send our produce through to Sydney—water-borne from Melbourne to Sydney—at the same rate as we could send it from Jerilderie. At that time the approaches to Jerilderie by road were really impracticable. There was no grass nor water, and consequently it would have cost more to carry water and feed teams than the produce was worth. At present produce is brought to Berrigan by teams—hired teams, as a rule. In times gone by we have suffered severely from fires, and people are always very anxious to get their produce off the land as soon as possible; and in order to do so they employ every available means at command to get their produce into a place of safety, and after finishing harvesting many go on the road and cart their own. The cost of the cartage, of course, depends on the distance. It is a mileage rate from here to Jerilderie. Immediately after harvest the charge was 1s. 1½d. per bag—that is, about 10s. per ton. People on the other side of the Eight-mile Point, towards Finley, got their produce carted to Jerilderie for 8s. per ton. I think it would be to their interest to patronise the Finley-Berrigan Railway, if they could get their produce carried to Jerilderie for 5s. or 6s. a ton. Of course if Sydney merchants held out sufficient inducements to people in this district to purchase their supplies in Sydney there would always be a return traffic. The condition of the roads between Berrigan and Finley and district wholly depends on the weather. With good weather, the roads are good; there could not be better, because the country is almost dead level, and you can take almost any quantity of loading you can get the vehicle to carry, in fact, I think the vehicles often succumb more quickly than the draught power, but if heavy rain comes the roads get correspondingly bad, quickly. About 50,000 bags of last season's wheat, nearly all from just around Berrigan, south of this township, and very little from Finley way, are now stacked at the proposed site for the Berrigan railway station. One of our greatest supporters is the Savernake district, as well as the southern district toward Cobram. There is much more wheat grown in that direction than Finley way. It was only after we found that the Government had accepted a tender for the Jerilderie-Berrigan railway, and that it was to be completed in July of this year, that people began to stack the wheat here, for there was always a doubt whether that railway would be constructed in time to deal with any of this wheat. In spite of all this, from about the beginning of the year to the end of the season, 50,000 bags accumulated here, and they are here now and some small quantities are still coming in. A stimulus was given to us in the first place by Sir Henry Parkes saying he would give us a tramway. When he was altering the tramway system in Sydney I was sent down as a delegate, and it was suggested that he should send one of the disused motors and some worn out rails for the use of this district, and from that day out agriculture has been going forward rapidly, and we have always looked forward to getting the railway which is almost now an accomplished fact.

To Mr. Black: Perhaps a little more than 50,000 bags of grain are now stacked at the proposed site of the Berrigan railway station. That wheat has come principally from the south and the east of Berrigan. A very large quantity of it has come from the district between Berrigan and Cobram; I think very little indeed of it has come from the neighbourhood of Finley. As this large quantity has accrued only from the carriage of wheat during two or three months, and in the face of a bad season, I think that it would be more than doubled or perhaps trebled in another season. There is an increased area under cultivation in the neighbourhood. I have gone from 500 to 2,300 acres, and I am only a small factor. I have noticed lately that a great deal of the storekeepers' and squatters' supplies has come to this district *via* Victoria. I think the bulk of their goods comes from Victoria. Simply because of the impassability of the roads it has paid them better to have their supplies water-borne from Sydney to Melbourne, and then brought on from Melbourne to the border by rail, and then carried from Cobram to Berrigan by team. The roads between Cobram and Berrigan are better than the present road from Jerilderie to Berrigan, because the construction of the railway has opened up new tracks, and they will not bear much traffic; the new tracks are not sufficiently solidified by use. The old track has been destroyed by the construction of the railway. The heavy portion of the traffic goes now chiefly to Cobram where there is a railway just across the river, whereas you have to go 4 or 5 miles after crossing the river at Tocumwal before you come to Yarroweyah. My argument is that the alteration of the road from Jerilderie to Berrigan caused by the construction of the railway has to some extent driven traffic to Cobram. The bringing of goods round from Sydney to Berrigan, *via* Melbourne, is not only a recent occurrence, because many facilities have been offered by steamboat proprietors and others to divert the carriage of those goods *via* Melbourne, and then the Victorian railway officials have given concessions which have been taken advantage of by our storekeepers, to their credit. I do not think it is a fact that you can land wheat in Melbourne from this district 2s. 6d. per ton cheaper than you can send it from Jerilderie to Sydney. I think the rates from Cobram to Melbourne and from Jerilderie to Sydney are about equal. New South Wales wheat is worth about 3s. 7d. or 3s. 8d. at Jerilderie and 3s. 11d. at Cobram, in bond. It is taken across the Victorian railways for export to Brisbane, West Australia, and other places. For want of a railway some of the wheat will have to be taken away by team. I have heard of some that is going away to-morrow from here.

Mr. W. J. Greggery. 20 July, 1896.

I suppose that most growers of wheat here would be satisfied with 3s. a bushel. I do not think there is much in it at a lesser price, although we have had to take less. From Berrigan to Cobram I think sleepers are just now being carted at about 13s. 6d. per ton, but that is of course a special rate. Wheat from near Cobram is generally carted to Berrigan at so much per bag, amounting to little less than 1s. per bag, but the rate altogether depends on the seasons. If there is plenty of grass and water you can get people to work their teams, or even when, like last year, there is a drought, but the price is 1s. per bag, I think, although I will not be sure on that point. I think that after the Jerilderie-Berrigan railway has been opened the bulk of the traffic of this district is likely to tend towards Sydney. I have reason to believe that the wool will be sent to Sydney. I know that there was a little doubt in the mind of a large owner here a few days ago, but that was simply owing to the non-completion of the railway. If he had been sure that the railway would be ready to convey his wool as soon as it was off the sheep, I am sure that it would have gone to Sydney straight. I think that, in order to see which market is the best, the squatters in this district, when they have two railway services practically to their door—one in each Colony—will be likely to pit the one against the other. Mr. MacFarlane promised to send all his wheat, 20,000 or 30,000 bags, by the Jerilderie-Berrigan line, but the Government have not acted up to their promise to have the line constructed by the 25th July. I do think the Government are to blame in this matter. They have supervising engineers, who should keep the contractors up to the mark. The construction of the Jerilderie-Berrigan railway was supposed to absorb a a large number of the Sydney unemployed. That was one of the reasons brought forward for having that line constructed, or, rather, perhaps I should say that the beginning of the construction of these cheap light lines was with the idea that they would absorb the unemployed; but since the Jerilderie-Berrigan line has been in course of construction I do not think that at any time have more than one hundred men been employed on it, and then for only a week or two. For the last two or three weeks, I think, only about twenty men have been employed on it. I know that the Government itself is not constructing the line, but that it has let a contract for the work; but I think that, on inquiry, you would find that the Government had power to step in, when it found the work was not going on, and do it at the contractor's expense, and thereby absorb the unemployed. I do not think that I have too high an opinion of the powers of the Government. Cobram railway station is about 23 miles from Berrigan, and the river is crossed by means of a punt. The bulk of the land in this neighbourhood has been held for pastoral purposes, but it is now held by comparatively small holders. There is a continuous line of *bonâ fide* settlement from here to Cobram. The land has been acquired by purchase, and is freehold. It was not bought by the present occupants from the Government, but from the original purchaser. Between Berrigan and Cobram there are some scattered portions of Crown lands available, but not a very large area in block. I am aware that it has been stated that the construction of the Jerilderie-Berrigan railway has been delayed owing to difficulty experienced in getting sleepers. They are now being brought from Cobram, on the northern bank of the Murray River—at least a portion of them are. I have no idea what the contractor's price for them is. There would be no difficulty whatever in getting sleepers for the proposed line from Berrigan to Finley, and we have a magnificent quarry of ballast here—equal to anything in the Colonies. It is decomposed granite, or granite pure and simple; there is granite detritus, and granite fit for any purpose. It is about a mile and a half from this place, at the furthest. The roads in this township are made of it. We have no blue-metal in Berrigan. At present the milling for the district is done in Jerilderie; but I think there is every probability of a mill being established here. From what Mr. Wise, of Jerilderie, has told me, I think he intends to establish a mill here next year. Six or seven years ago this place was a wilderness—wild scrub. I do not think that, even if a railway were constructed from Berrigan to Finley, any great quantity of traffic would be drawn to it from the border; but I think that the Jerilderie-Berrigan line will attract people from as far as the border. In fact, as soon as that line is opened it will be a through line from Victoria for squatters and other people travelling to Bourke and the back country. They will go through Deniliquin, and *via* Hay. They will save half a day even in going to Hay for business purposes by coming this way. They will come by coach from Cobram. That traffic will help to make the Jerilderie-Berrigan line pay. I do not think at present that there is any danger of that line being used as a feeder for the Victorian railways. I do not think that there is any danger of goods being carried from places between Jerilderie and Berrigan to the nearest point on that railway, and then being taken by team across the river to Cobram, or to Yarroweyah; every day's experience proves directly the contrary, because we are getting things water-borne from Sydney to Melbourne, and sent through Victoria to Berrigan. Of course. I suppose that for goods for sale the people in this district will take advantage of the best market, wherever it may be. I think that the majority of the settlers and townspeople in this neighbourhood have been Victorians; some at recent dates, and some a long time ago. I was a Victorian myself nearly fifty years ago. A man is no colonist at all if his sympathies are not with the colony he lives in. I think the people in this district are thoroughly good colonists, and New South Welshmen. We suffered from drought last summer. The previous drought was some years before that. We have had several bad droughts here; but, as applied to agriculture, we have never had a drought that has thoroughly devastated a crop. The droughts have been bad for grass and stock; but, as far as agriculture is concerned, they have not had any prejudicial effect. I do think that wheat which is favoured with a rainfall soon after being sown is largely interfered with by an ordinary drought. I think that wheat can stand a good deal of drought. Our average rainfall is 20 inches. Provided that that was fairly well distributed over the year, even pastoral pursuits would not be seriously affected. Our experience here is that if we get a heavy rainfall at one portion of the year it is at the expense of another. Of course the average is made up throughout the year, not doled out in modicums at a time. I am hardly prepared to answer your question as to whether, in the matter of delay in constructing the Jerilderie-Berrigan railway, it is a valid excuse that the contractors have been unable to get sleepers, I know it was quite possible to get sleepers from the Murray River in the summer months for the whole line, before any rain at all had fallen. I am not prepared to say that the contractors delayed getting their sleepers forward before the rain set in, because I understood from the contractors themselves that they were to have sleepers from another portion of the Colony, and that through some unforeseen occurrence—bad weather, or something of the kind—they were unable to get them, and had to come back here. Perhaps it was an error of judgment on their part. I am not prepared to sit in judgment upon them. I am not aware whether there has been a strike in connection with the construction of the Jerilderie-Berrigan railway. I have heard that the contractors for that line are also the contractors for the Moree railway; but, from my own knowledge, I cannot say. The Murray River is now running for navigation.

Mr. W. J. Greggery. 20 July, 1896.

navigation. About three weeks ago a steamer left Tocumwal with about 1,100 or 1,200 bags of wheat. I cannot say where that steamer was bound for; I merely saw a notice in the paper that such a boat had left. As a rule, when the market is favourable, large quantities of wheat as well as wool are despatched from Tocumwal by boat. I have not heard of any shipment at all from Cobram; in fact, I do not think that Cobram is classified as a port, but Tocumwal is. Tocumwal has a Custom-house officer and other luxuries. I am not prepared to speak with reference to a railway from Berrigan to Finley. I have advocated a railway from Jerilderie to Berrigan. A railway to Finley is outside my province; but that district is quite equal to this, and it altogether depends on whether the holdings are or are not permanent—whether that railway will or will not pay. If they are permanent, I think there is as much possibility of that line proving remunerative as there is that the Jerilderie-Berrigan railway will. The people of Finley have greater facilities for getting to places beyond the border than the people of Berrigan have, because they have a bridge across the Murray at Tocumwal, and the Victorian Government has made a road to Yarroweyah, where there is a railway station. The road between Finley and Berrigan is an average bush road; in fact, it is about the best road about here at the present time, because there is not much traffic on it. It is better than the road between Berrigan and Jerilderie. There is a road from Finley to Jerilderie. The distance is about 25 miles. The distance from Finley to Jerilderie is about equal to that from Berrigan to Jerilderie. It is only about 17 miles to Finley proper from here, and people living within 8 or 9 miles of Berrigan could not be better served than they will be by the Jerilderie-Berrigan railway; in fact, they would be as well served as if they had a railway to their own doors; but people further on would send their produce to the siding, and thus save a few miles. I do not think that the Finley residents would avoid Berrigan in order to go to Jerilderie. The road from Finley to Jerilderie is a pretty bad road, especially with heavy traffic, but some of the Finley people would still make use of the railway station at Jerilderie either for the despatch or the reception of goods. The Finley people have a great advantage; they have a travelling stock route, a mile wide, which they can go on pretty well as they please—one of the oldest and best stock routes in the Colony. I do not mean to say that when the Jerilderie-Berrigan railway has been opened people living at Finley proper will cease to make use of Jerilderie as their depôt and will come to Berrigan, but that people living within a reasonable distance of Berrigan will certainly come here. I do not wish to give my evidence with any bias against the Finley people, who perhaps have the same right to a railway as the Berrigan peeple have; but I think that some portion of the Finley residents would still continue to use the Jerilderie railway station. I think that Berrigan is the centre of the wheat-growing district in this portion of Riverina. There is a large area of land under cultivation. There is more cultivation east than west, The increased area under cultivation extends chiefly east and south. I think that the reason for that is increased facilities, On the other side of Finley there is a very large property held by one holder which has been kept pretty well intact. That estate—Tuppal—runs nearly 40 miles from here west, and west of Finley it has been held pretty well intact. I think that nearly the whole of the setttlers west of Finley are *bona fide* men who have got their original holdings, and there may be a few others, but the holdings east have been smaller, and I think the returns have not been perhaps so good as they used to be, and the people have determined to try some other plans of working their estates. That is merely my idea. I may be right or I may be wrong. Outside of Momolong there are several small holdings running nearly to Corowa, and a large number of those holdings have been thrown open lately under different systems of working. The Government has no doubt assisted to a great extent to make settlement somewhat easier there lately, but it is the private landowners themselves in that direction who have given the most facilities. The terms on which the large landowners permit people to cultivate their lands are various—the usual system is the halves system, but there are various terms under which the halves system is worked. I should think that some of the landowners get as high a return as 10s. an acre, The landowner provides seed-wheat and bags, and many other things—in nine cases out of ten he provides food and sometimes tobacco—and he has to wait twelve months, and if there is a bad season he may get nothing, but if there is a good season he may get 10s. or 15s. per acre. If there is a good season, there is nothing to prevent his getting back the things he has advanced, as well as, perhaps, 10s. per acre; if there is a bad season he loses what he has advanced and gets nothing in return. I think that if the ground is properly worked, and the occupier is a man who looks after it properly, the landowner should have a return of 10s. per acre. Ten shillings an acre would be a pretty fair rent for land that cost a £1 per acre; but, of course, it costs more than that to put it under cultivation. As a rule it is not the man who pays 10s. an acre who does the work. It is either done for him or he is allowed for it, which amounts to the same thing. Sometimes a man who goes in at 10s. an acre has to find everything. If he gets a good season he comes out alright; but if he gets a bad season he gets nothing and the landlord gets nothing. Seven shillings an acre is generally allowed for clearing the land. Ten shillings an acre is a pretty fair return, but the landlord has to provide seed and bags. Bags cost 4s. 2d. per dozen.

To Mr. O'Connor: The promise of a railway from Jerilderie to Berrigan induced people to take up land and cultivate it. This same result would follow railway extension to Finley, if there were the same position of affairs, but in this portion of the country there was a large quantity of Crown land available, and it is not so in Finley. The station property in the Finley district embraces 30 or 40 miles, by about 50 miles or more. The country between Berrigan and Finley is magnificent agricultural land. As to whether settlement would follow railway extension to Finley, it would all depend on the will of the owner of Tuppal Estate. The roads in the Finley district are fairly good—the usual bush roads. They are good in good weather, and they are bad in bad weather—it all depends on the amount of traffic. The expense of carriage is very considerable to the producer when the season is bad. Extension of the railway to Finley would be a great advantage to the producer. I do not think that the fact of some of the people here having originally come from Victoria interferes in any way with their loyalty to New South Wales or their desire to advance its interests. I think they are New South Welshmen thoroughly.

Mr. Emanuel James Gorman, auctioneer and farmer, near Berrigan, sworn, and examined:—

Mr. E. J. Gorman. 20 July, 1896.

To the Chairman: I am an auctioneer and a farmer. I am one of the oldest residents in the district. I have been here seventeen years.

To Mr. Black: As an auctioneer I handle everything I can—stock, land, grain, &c. I do a good deal of grain-buying, and hope to do more when the railway has been opened. Stock in this neighbourhood are chiefly despatched to Melbourne; I mean fat sheep. Last year, owing to the drought in other parts of

New

Mr. E. J. Gorman.

20 July, 1896.

New South Wales, a very large number went *via* Jerilderie to Sydney. There are not many cattle about here. The prices last year were better than they had been for years. Riverina was the principal supplier of Sydney last year. There was some feed here last year—natural grasses; very few of the sheep were artificially fed. One farmer near here fattened some on lucerne, but that was not the usual thing. It paid him very handsomely. He topped the Sydney market last January, with a small consignment. He got his crop by natural rainfall. An attempt to raise crops by irrigation was made by Mr. McFarlane, on the Murray, but I do not think it turned out successfully. He spent some thousands of pounds on a plant, and afterwards gave it up, because it did not pay. I can hardly say whether that was because of distance from the market. In my opinion irrigation would not answer in this climate to any extent. There is not sufficient demand for the produce. The prices are too low to pay for the labour that would be expended in irrigation, and the corresponding increase in produce would not justify the expenditure. In ordinary seasons we do grow sufficient chaff in this district for its requirements; but there was hardly enough last year. After the Jerilderie-Berrigan railway has been opened, I have no doubt that we shall try to sell any surplus chaff we may have. Whether a considerable area will be devoted to the growth of chaff for the Sydney market after the Jerilderie-Berrigan railway has been opened will depend solely on the prices. It might be better to let it run for wheat, for the cost of harvesting wheat is much less. The New Zealand and Tasmanian growers have a much larger yield, and can land their chaff more cheaply in Sydney than we could, even with a railway, under ordinary circumstances. If we could land chaff in Sydney for 15s. a ton, and could get £4 a ton for it there, that would be equal to about 2s. 9d. per bushel for wheat, on an average yield. It would pay to grow wheat here at from 2s. 6d. per bushel upwards. Many people, I think, would probably grow it at a lower price, but it would not be a very productive undertaking at much less than 2s. 6d. You can only get about four successive crops of wheat, and then the land requires a rest. If the land could continue as fertile, and you could keep on cropping it year after year, no doubt wheat could be profitably grown at 2s. per bushel; but, as matters are, that would not be a wise thing to do. As to what would be a good resting crop to follow wheat, chaff would be an improvement, but it takes a great deal out of the ground as well. Sheep-grazing is the right thing to follow wheat in this district. The soil here will grow potatoes under favourable circumstances, but not so as to compete with other districts; you may get an early potato crop here, and it may be a total failure—you cannot depend on it. The soil here is suitable for stone-fruits and grapes. The growing of these has been gone into, but it is not a profitable undertaking at present—there is not a very good market. The prices in Sydney and Melbourne are not sufficient to encourage anyone to go into it. I do not think it is a fact that the fruit consumed in all the small towns hereabouts is brought from the Sydney and Melbourne markets. There are a few growers round about here who kept Berrigan supplied last year, and also sent fruit to Jerilderie. The number of sheep that were sent from about here to Sydney, last spring and summer, was not very great; but a large number went from Jerilderie. I should say that considerably over 1,000 were sent during the year. If the railway from Jerilderie to Berrigan had been completed, some more might have been sent; but farmers here do not go in largely for fattening sheep—only the stations. I would not say that the station-owners to the west—Tuppal and other places—would not avail themselves of the railway for the conveyance of sheep to Sydney. Of course, some of them do avail themselves of it. I believe that a number of Tuppal sheep went to Sydney from Jerilderie. There must have been some feed on the travelling stock route. Of course, it is essential there should be a stock route to travel sheep on. There was a very good demand last year for export also, and it was just a toss up whether sheep should be sent *via* Sydney or Melbourne. Many buyers sent them to Melbourne. The Deniliquin Meat Freezing Works did it. There are meat-freezing works at Narrandera. They are not freezing at present, but the works have been in operation for a couple of years. I know the country in the neighbourhood of Finley. I have no doubt that if a railway were constructed from Berrigan to Finley the settlers and the trades people there would make use of it. Of course, they are a little more in touch with Victoria than we are, owing to the bridge at Tocumwal; but, otherwise, I think they would make use of that railway if it were made. As a business man, I do not handle to any extent goods bought in the metropolitan markets. When I have handled any of them, I have, up to the present, got them principally from Melbourne. The completion of the Jerilderie-Berrigan railway would cause me to transfer my custom to Sydney direct; but, if we found, after a good trial, that we could obtain our goods much cheaper from Melbourne, I do not know how far our patriotism would go, if it were a question of losing a lot of money yearly, or getting the goods cheaper *via* Melbourne; but, I think, on the whole, of course, Sydney would be better. The rates would have to be amended in some direction. At present the rates are very low on some things and very high on others. I think the Railway Commissioners will have to reconsider their tariff. I got a small consignment of fruit-trees from Sydney the other day, and the freight was £4 10s., which, I think, was very excessive. I do think that the lot weighed more than 15 cwt. That sum did not include road carriage; it was just the charge to Jerilderie. The Victorian railways do not give a considerable rebate on goods sent to Melbourne from this district; but, on goods sent from Melbourne to this district, we get a rebate of 20 per cent. over a certain distance. The Victorian railways give a rebate on wool sent to Melbourne, but not on anything else sent from this district. The rebate on wool amounts to the difference between 5s. 6d. and 7s. 6d. a bale, or something like that—a difference of about 30 per cent. If the New South Wales Railway Commissioners are to compete successfully with the Victorian railways in the carriage of wool to the deep water, they will have to carry it at very low rates. They are already competing with them in the carriage of wheat. The greatest quantity of the wheat grown in this district has hitherto been despatched to Jerilderie. I think that very much more goes to Sydney than to Melbourne, and that the quantity is likely to be increased when the Jerilderie-Berrigan railway has been finished. The acreage under cultivation has already increased very considerably, and, no doubt, that railway will influence wheat between here and the border. The proportion in favour of Sydney will be preserved, and possibly still further increased, after the completion of that railway.

To Mr. O'Connor: All things being equal, I have no doubt at all, that, as regards the trade between this place and Finley, Sydney would get the preference over Melbourne. As a matter of fact, the only objection that there can be in the minds of the people here to trading with Sydney is excessive rates. That matter being arranged in a satisfactory way, the people here would send the best of their produce to Sydney, and also buy in the Sydney market.

To the Chairman: I have a good knowledge of the surrounding districts. I have spoken to a few of the owners or occupants of land through which the proposed line from Berrigan to Finley would run. I think they

Mr. E. J. Gorman. 20 July, 1896.

they are prepared to take a fair amount of compensation for the land, unless through severance their farms are injured to any great extent by the railway. These men are within 4 or 5 miles of Berrigan. I have no knowledge as to who would be willing to give their land. I am only speaking of my own knowledge, as regards people living within 5 miles of Berrigan. The size of the holdings within that area is mostly from 500 to 1,000 acres each—some 1,280 acres. I notice from the plan that it is proposed to cut through some allotments in the town of Berrigan. I should hope that it would be considered unreasonable to expect the owners of those allotments to give their land for nothing, as I happen to have a few of those allotments myself. The price of land has gone up very considerably here during the last six months, and I think it would be unreasonable to expect people to sell it under its market value.

To Mr. O'Connor: Some of the owners ask as much as £25 and £30 for half-acre allotments, and in some cases more. It all depends on the situation.

To the Chairman: Of course, those allotments within the village area have been increased in value owing to the authorised construction of the railway from Jerilderie to Berrigan. As to whether there would be any difficulty in arriving at a reasonable rate to be paid as compensation to the holders of the larger areas between Berrigan and Finley, I cannot speak from personal knowledge; but, I believe that some of them, nearer Finley, are prepared to give their land without compensation. As to whether the proprietor of Tuppal Station is prepared to convey land, free of cost, to the Government, a conversation that I had with the owner's son leads me to think otherwise; but I do not know whether he was in earnest or not. He led me to believe that he did not at all favour the construction of a railway from Berrigan to Finley—that in the course of a few years most of the land at present leased would revert to him for grazing purposes, and in that case he did not want a railway. I do not think those were his real opinions, but that is the idea he gave me. As to whether the leasing of his land pays the owner of Tuppal Station better than using it as a sheep run, I believe he has had to make concessions. Of course, if he got the 5s. an acre which he was to get, unquestionably it would pay him; but, I believe that, owing to the bad seasons, he has given rebates to a number of his tenants, which amounted in some cases to 50 per cent. I believe that those areas were originally leased for five or seven years for 5s. an acre, with the right of purchase at £4 per acre; but some of the lessees threw up the land, and I believe it is now being farmed on the shares system—or, at any rate, a portion of it. As to whether some of those areas will revert to the proprietor of Tuppal Station, and will not again be put under cultivation, I should say from my own experience that the land would need a rest. It has been cropped successively I think four seasons, and by the time two more crops have been taken off it, I think it would not pay to keep it under cultivation, and it will of necessity go back to sheep. I do not know whether the present lessees will be prepared to buy it and run sheep on it at 4s. an acre; but I do not think it would pay at that price. I do not know the disposition of the proprietor of Tuppal Station as to inducing future settlement in the district. I know that he is a very wealthy man, owning nearly 500,000 acres, and is considered one of the most successful sheep-breeders in New South Wales, and is supposed to make more money out of sheep than any other man in Riverina. He gets a better return from sheep per acre; and, therefore, there would not be so much inducement to him as there would be to a less successful sheep-breeder to put his land under wheat. If he saw that it would pay him better to have the land farmed than to go in for sheep-growing, I have no doubt he would prefer to go in for farming, except that there is much more trouble and expense attending land under wheat, and even a good man in a strong financial position might prefer to get money out of his land in a less risky way, and, of course, there is less risk with sheep than there is with wheat. The lessees up to 7 miles this side of Finley have cultivated the land almost to its fullest extent; but the people 8 miles out are farmers who own their land and prefer to put under cultivation only a portion of the land, and to reserve the other for future agriculture. Those people who have acquired this land between Berrigan and the 8-Mile Point were mostly original conditional purchasers, but a few have bought from the original purchasers. I think that the great bulk of the land on Tuppal Station is as suitable for wheat-growing as the land in the vicinity of Berrigan. Some of it, near the river, is not so good round about Tuppal Homestead, 12 or 15 miles from Finley. As to the value per acre of that land in its natural state, without any cultivation, I may say that at present it is valued at £4 per acre freehold. I think that that is about the price at which the owner would be prepared to treat with purchasers now. If a railway went there he would probably want more money for his land. I should certainly say that the extension of the railway from Berrigan to Finley would enhance the value of that estate. As to whether the proprietor of Tuppal Station might reasonably be called upon to pay something on the betterment principle, towards the construction of the line, I may say that I approve of the betterment principle, but I would not like to say anything about it in this particular case. We have got the railway from Jerilderie to Berrigan without the application of that principle; but I think it would be to the interest of the whole Colony if a Betterment Bill were passed. I think the route selected for the proposed railway is a favourable one; it is the most direct route. I do not think that a deviation could be made by which Crown lands or further available lands might be secured. There is a very small portion of Crown lands still available; nearly all the Crown lands have been alienated. I know that Mr. Faulkner sold an immense number of wethers last spring and summer; but I am not quite sure whether they were from Boonoke or Tuppal, which is farther north. I know he sells large draughts annually from Boonoke; but I believe he did send a good number from Tuppal also. The Finley farmers, at the present time, send their produce to Jerilderie. A gentleman from Finley told me that at the present time he could get wheat carted from Finley to Jerilderie at 7s. 6d. a ton; and that, owing to the travelling stock route, they were in a much better position than we were, as we had a chain road on which there was no water, and very little grass. My place is 10 miles east of Berrigan, and I am satisfied with a railway to Berrigan from Jerilderie, as I think that 10 miles is a reasonable distance to cart wheat; but beyond my place, and immediately surrounding it there are twenty-one farmers holding an aggregate area of 51,000 acres. At present they farm about 12,000 acres. I think that will be increased after the railway from Jerilderie to Berrigan has been opened, because, of course, they have plenty of land to work upon. As a resident to the east, I think we are as much entitled to a railway as the Finley people are, but we did not set the same value on our own importance, or probably were not as public-spirited, and we were satisfied with the railway extension to Berrigan. The land is about the same quality, and I believe there are more *bonâ fide* settlers—more men who live on their own farms, and who have acquired the land direct from the Crown. Up to the present time I think that the pastoralists

pastoralists—the owners of Wonnamurra, Tuppal, Barooga, Momolong, and I think pretty well all the others—have obtained their supplies principally from Melbourne. The local farmers obtain their supplies principally in this township. I think that the storekeepers in this township obtain their supplies about equally from Sydney and Melbourne A good number of teams ply between here and Jerilderie, and a good number between here and Cobram. If the proposed line from Berrigan to Finley were to offer facilities by which the carriage of wheat would be much improved, I certainly think that the line would be patronised by the farmers living towards Finley. For the greater part of the distance, I know the route of a proposed railway from the Rock to Finley. That line, if constructed, would pass through Finley, and, if we had that alternative route, the question then would be which was the cheaper freight, *via* Jerilderie or *via* the Rock. I believe that the Rock is about 100 miles from here, and I am not sure that it would be the nearer route to Sydney. I believe it would be slightly. As regards the wheat which is grown in the district, a large quantity of it finds its way to the Sydney market as wheat, and a large quantity as flour. I believe that, owing to some alterations which the Railway Commissioners have made in the tariff, the country millers are now handicapped as against the city millers. Formerly they were put on the same level, and could send their flour and compete with the city millers; but now, owing to some alteration in the tariff, the city millers have an advantage of a 1d. per bushel over the country millers. So I have been told by Mr. Wise. That, of course, militates against the farmers, because they lose the benefit of competition. A great deal of the wheat produced in this district is ground into flour and consumed in the district, and it always goes to Hay and other places.

Mr. E. J. Gorman. 20 July, 1896.

TUESDAY, 21 *JULY*, 1896.

[*The Sectional Committee met at the "Federal Hotel," Berrigan, at* 11 *a.m.*]

Present:—

FRANK FARNELL, Esq. (Chairman).
The Hon. Daniel O'Connor. | George Black, Esq.

The Sectional Committee further considered the proposed Railway from Berrigan to Finley.

Mr. John Batten, farmer, Berrigan, sworn, and examined:—

To the Chairman: I reside close to Berrigan. I am a carpenter by trade; but I am farming at the present time. I have resided in this district four years.

To Mr. O'Connor: I have carried on farming ever since I have been here. I have a farm of 640 acres adjoining Berrigan. I know Finley very well. The soil is very good all the way from here to Finley. The farmers principally grow wheat, which averages from 14 to 18 bushels to the acre. The great question, so far as I am concerned, is whether an extension of the railway from Berrigan to Finley would develop that district to any considerable extent. I do not know what the owner of Tuppal Station would do; but, as far as I know, two-thirds of the land belonging to the owner of Tuppal Station, if not more, for 9 miles right up to Tuppal, would come in. Tuppal Station belongs to Mr. Faulkner. My idea is that if Mr. Faulkner were to lease his land to *bonâ fide* settlers, it would be a great wheat-growing district. But the question is whether he will lease his land on long terms, or lease it only for four or five years, and after that let it go back to grass again. It is, of course, a fine country. I have no idea what Mr. Faulkner's intentions are. He has leased some thousands of acres to several farmers, with the right to purchase; but what he is going to do beyond that I do not know. At the present time he is grazing part of his land, and cropping some of it on the share system. He has leased lots of it on the share system, but only from year to year. Occasionally the farmers may take it for three years; but a great many leases, I understand, are merely from year to year. In order that the district may be able to produce all that it is capable of producing the men should have the freehold. If I were cropping I would get the best crops I could, if I were there only for a year or two; but if a man has land of his own, or is going to purchase it, he will be anxious to keep it in good heart, and not work it out. If the owner of Tuppal Station were disposed to sell any of his land, I think he would be able to find purchasers for it at a fair price. I do not know what his opinion is. I am not aware whether he is at present offering any of his land for sale. I know the land about Berrigan. In point of wheat-growing, I think that the one land is as good as the other. My idea is that the great question is whether Mr. Faulkner will sell any of his land. It is beautiful land. There are a good many persons now engaged in farming land on Tuppal holding on the share system. There are also, I think, about six or seven freeholders there, just near Finley. There are some more west of Finley, further out again. There are several there, I think, who have leases with the right to purchase. The construction of a railway from Berrigan to Finley would produce settlement if the people could get land to settle upon. If the owner of a large run says, "I am going to keep sheep on it," of course settlement cannot increase there. If they could get the land to settle upon, there are thousands of acres of land on which people would be only too glad to settle, but if the station-owners will not sell, you cannot make them do so.

To Mr. Black: I have 500 acres under crop. My holding is 640 acres. I cannot increase the extent of my land under crop. After this year I must rest some of it. You cannot crop the same land every year, because it would run out. The largest area I shall be able to crop after this year will be about 400 or 500 acres. But all my land is suitable for cropping, and by resting 100 acres every year, and thus keeping the land in good heart, I shall be able to go on cropping. My principal crops are wheat and oats. Up to the present time we have had a sufficient local market for oats, but I think that after a few years, if there is a lot cultivated, we shall have to send oats to Sydney. At present we grow oats only for local demand. But I believe it would pay us to grow more oats and send some to Sydney, if we had railway communication with the metropolis. If we got 2s. a bushel for oats, I think it would pay us, or even 1s. 9d. a bushel, but not less than that. If a man has a farm of his own, it is very different from farming on the share system. The lowest I have ever sold wheat for is 1s. 11d. a bushel, but 2s. 3d. or 2s. 6d. is the lowest price at which I think any man could grow wheat and pay his way; but that would not pay him on the share system. I do not know any reason for the delay in constructing the railway from Jerilderie to Berrigan. We have had one of the best seasons that we have ever had since I have been here. There has not been a large quantity

Mr. J. Batten. 21 July, 1896.

Mr. J. Batten. 21 July, 1896.

quantity of rain. The contractors, I think, neglected to get the sleepers when they ought to have got them. That and not having sufficient men employed in constructing the line are the only causes of delay of which I know. There are no engineering difficulties at all in the way. It is simply like road-making. Any good business man would naturally have got his sleepers along the route at first. Whatever goods we want on the farm I purchase chiefly in this township. Hitherto machinery has come chiefly from Victoria—some from Sydney, but not much. Hitherto, we have not had very much communication with Sydney, and our strippers and harvesters and nearly all our ploughs have been made in Victoria. I do not think this has occurred because of the difference in rates for carriage. In my opinion the Sydney merchants have neglected this district. I have never had the representative of a Sydney merchant call on me since I have been here. The travellers have all been from Victorian merchants. I think that is the chief cause of the things being obtained from Victoria. We are a long way from Sydney, and the Sydney merchants do not force business this way. When the railway has been completed and the district is better canvassed on behalf of the Sydney merchants, I think that the balance of trade is likely to go Sydney instead of, as hitherto, to Melbourne. I see no reason at all why it should not. It is to the merchants' interests to send commercial travellers here to do business. I cannot answer your questions as to whether it may not be that the Sydney merchants believe that it is impossible for them to compete with the Melbourne merchants owing to the proximity of Berrigan to the Melbourne market, and its great distance from the Sydney market—I cannot answer that question, because I am not a merchant myself. But you will find as a rule that men in all parts of the world will deal in the cheapest market. That is my experience; and if the Sydney merchants wish to compete they must sell as cheaply as the Melbourne merchants. I think that the Sydney merchants will land goods as cheaply here as the Melbourne merchants, for at present the cost of carriage is £1 a ton from either Cobram or Jerilderie, the distance being 25 miles to each of those places, and the construction of a railway to Berrigan would make a lot of difference in the carriage from Sydney. It is true that the teamsters carry goods from here to Jerilderie at 10s. a ton, but that is in harvest-time, when the roads are good. At the present time, however, we pay £1 a ton. Of course, in summer-time, when the roads are good, a man could carry 10 or more tons, whereas he could not carry 8 now. The rates for carriage are regulated by the state of the weather. At the present time we can scarcely get goods carried from Jerilderie even at £1 a ton, but in summer we can get them brought at 10s. That is all we pay for wheat. It is impossible that during some portions of the year the local carriers will be able to offer better terms than the Railway Commissioners in making contracts for the carriage of goods. Less than 10s. a ton would not pay them. In fine weather they might have some chance of competing with the railway, but none in wet weather. The road from here to Cobram is not very good at present. In summer-time it is a fairly good road. At present it is a better road than the road between here and Jerilderie, because, of course, the road from here to Jerilderie is chiefly a new road, and that cuts up very much. But a road hardened by summer traffic is much better.

To Mr. O'Connor: There is a railway connecting Cobram with Melbourne. It is within half a mile of the river. The branch line goes right to Numurkah, close to the river. When I say that 2s. 3d. per bushel for wheat grown on freehold land would pay me, and nothing less, I mean 2s. 3d. clear at the railway station. The cost of carriage from the farm to the station would be at my expense. We have sent wheat all the way to Jerilderie for 1s. 11d. a bushel, and have paid 1s. a bag for the carting of it. My farm is only a mile from the proposed station, and it would cost me a penny a bushel to cart wheat from my farm to the station.

To the Chairman: During my residence in this district I have noticed an increase of settlement between Berrigan and Finley; five years ago scarcely any wheat was grown in that district. Now there are thousands of acres more under cultivation than there were then. Four years ago, on the road to Finley, there were only a few paddocks cultivated, but now, more or less, the land is cultivated all the way. The last five years it has chiefly been put under wheat. As to whether the farmers complain of being handicapped by the existence of bad roads, and the charges made by carriers for the conveyance of their produce, I may say that the people of Finley are in just about the same position as we were originally here. It costs them about 10s. a ton, in harvest time, to get their wheat to Jerilderie. They will be served a little by the line now in course of construction. They can reach Dickie's in 11 or 12 miles. There is a good road to Dickie's from Finley in summer-time. I am speaking of the township of Finley, and this side of it. Beyond the township of Finley the people would not be served at all by the Jerilderie-Berrigan line; and from anywhere this side of Finley I reckon the people could get to Dickie's, by going across country, in 13 miles. The construction of the proposed extension from Berrigan to Finley will lead to a greater development in and around the district of Finley, if the land be open for people to settle upon it. If Mr. Faulkner or the other owners of land will throw it open for settlement, there are thousands of acres of beautiful land. But I reckon that people living 5 or 6 miles this side of Finley, or at any rate the majority of them, will take their grain to Dickie's. I could not tell you the quantity of land in the Finley district under cultivation four years ago, and the quantity at present under cultivation; but I should think that in the four years the quantity has trebled. I think that the construction of the Jerilderie-Berrigan Railway has acted as an incentive to people to increase their areas under crop. In all parts of the district there are more under crop this year than there were last. Momolong Station this year has 10,000 acres under cultivation. I have not increased mine, because I have not sufficient area to do so. I think many of the commodities used by the farmers in the Finley district come from Tocumwal—I know from experience that a good many of the farmers trade with Tocumwal. I cannot answer your question as to whether, if the facilities of railway communication be granted to those people, they will deal in the Sydney market instead of the Melbourne market. My idea is that a man will deal in the cheapest market. I think that patriotism is not consideration enough to prevent a man from looking to his own pocket first. I think that if a Victorian offered a man here an article for 5s. less, and quite as good, he would accept the Victorian offer. I should do so, although I live in New South Wales. I am not a Victorian, and I never lived in Victoria, but that sort of thing is done all the world over. If the Sydney merchants will compete properly here with the Victorian merchants, they will get the trade, or at any rate part of it. The proposed route of the Berrigan-Finley railway goes across part of my land. According to the plan, it takes my best corner and cuts me off from the township. I do not know exactly how much of my land would be severed, but I should think that the line would cut 40 or 50 acres off that corner—it might only be thirty acres, I can only guess at it, for the line is really not exactly surveyed, it is only on paper.

After

After deducting the area required for the railway to run over, the balance would be quite large enough for cultivation purposes; the only thing is, that they would take the best corner off, and the township is surveyed so far that if otherwise I were in a position to sell suburban lots, I could not, as the railway would cut off the best corner. I should be served fully by the Jerilderie-Berrigan railway, and this Finley line would not benefit me, for I am within a mile of the proposed Berrigan station. In regard to the land required for the construction of the Berrigan-Finley line, my idea is that the Government should pay for the land at a fair valuation. I could not afford to give my land. I had to pay £4 2s. 6d. per acre for it in its rough state—for the whole of my land right through—and I reckon that that portion of the land through which it is proposed the line shall go is worth £7 an acre. I could get that for it at the present time. I believe that that land has been enhanced in value by the construction of the line from Jerilderie to Berrigan, because the township has grown. I bought that land from the Momolong Station owners and they are willing to sell any of their land at about £4 an acre. Mr. J. Batten. 21 July, 1896.

Mr. John McLellan, farmer, Berrigan, sworn, and examined:—

To the Chairman: I am a resident of Berrigan, and am a farmer. My farm is about 2½ miles outside the township of Berrigan. According to the plan, the proposed line from Berrigan to Finley would run for a mile along the road which is the boundary of our property. I shall not be served in any way by the construction of this line. It would not improve the value of our property, neither do I think it would injure it. In case it were determined to construct this line, I should be a claimant for compensation. There is always a certain amount of danger from fire from the railway running along the edge of any property. Yes, I do know that there is always a remedy for all cases of injury of that character that may happen. Some of my land is to be taken for the railway, but I do not know how much. That would depend on whether the line ran all on our land, or partly on the road. The road is a chain wide. Supposing that the land required were taken on the opposite side of the road to that on which my land is situated, 2½ chains would have to be taken from the people opposite me. It is only in case it be determined that 2½ chains shall be taken on either one side or the other of the road that a claim for compensation could come in. If it be determined that the land required shall be taken from my property, I shall have a claim for compensation, but if it be determined to take the line through the land opposite my property, the people opposite me will have a claim for compensation. We should want the market value of our land. I shall not be served in any way by the construction of this railway. I shall be served sufficiently by the Jerilderie-Berrigan line. I took up the land sixteen years ago. I selected it in its rough state. I have 1,100 acres. I am part proprietor of it. I think that the value of the land in that district, just round about where ours is, is about £4 an acre. I do think that my property has been enhanced in value by the fact of the Jerilderie-Berrigan railway being in course of construction. The average yield of wheat that we have had from our estate has been from 15 to 17 bushels an acre. At the present time we have 680 acres under cultivation. The proposed railway, if it were to follow the route laid down on the plan, would go through crop land all along. My valuation at £4 an acre was for the land in its rough state. In its improved condition, I should value it at £5 an acre.

To Mr. Black: I find a market in Sydney for my produce. I have not been in the habit of sending any portion of it to Melbourne. I buy my necessaries in this township. I think that the land in this district which is under cultivation requires a rest about every five years. I am not resting the balance of my land which is not now under crop—it has never been under crop. I do not suppose that I should put it under cultivation, unless we found that the construction of this proposed railway gave us a better market and an increased outlet, in which case we might increase the area of land under wheat. Then we should have a better opportunity of resting the other land. I think that 2s. 6d. per bushel is the lowest price that would pay me for wheat, and about 1s. 9d. for oats.

To Mr. O'Connor: In connection with the construction of the proposed line from Berrigan to Finley, the portion of my land that would be affected is under cultivation. I have not formed any opinion with regard to the scheme under consideration. In the evidence that I am giving, I am speaking merely from my own standpoint—as to how the construction of the line would affect me, and me only. I cannot say whether this proposed railway would be beneficial from a national standpoint. Mr. J. McLellan. 21 July, 1896

Mr. John Phipps, farmer, Berrigan, sworn, and examined:—

To the Chairman: I am a farmer. I reside to the west of Berrigan, about a mile out. I have 800 acres, of which about 510 are under wheat cultivation. I have not put the land to any other use but wheat cultivation since I have had it. I have had it only about twelve months. I bought it from Horsfall and Carington, at £3 10s. per acre. I know the proposed route of the railway from Berrigan to Finley. The construction of this line would interfere terribly with my property. It would go right across the two blocks. It would go through the very centre of a big block. According to the plan, about three quarters of the whole area would be left on one side of the line, and a quarter on the other, and of one paddock there would be only 15 acres left in one corner. The line would go mostly through cultivation. This railway would offer me no further facilities whatever. I should be sufficiently served by the line from Jerilderie to Berrigan. I certainly would not give any of my land to the Government for the construction of the proposed line from Berrigan to Finley. I do not know how many land-holders would be affected by the construction of this line. I do not know much of the district.

To Mr. O'Connor: I should want £7 per acre for any of my land that was taken, and I should also want compensation besides for severance. I do not know how much of my land would be required for the railway. Mr. J. Phipps. 21 July, 1896.

Mr. William Douglas Drummond, auctioneer and commission agent, Berrigan, sworn, and examined:—

To the Chairman: I am an auctioneer and a commission agent carrying on business at Berrigan. Prior to entering into this business we had a farm alongside the township, for the last seven years, until recently, when we sold it. Portion of the township is built upon it. The extent of the farm was about 700 acres, of which from 450 to 500 acres were under cultivation. We acquired the land by purchasing it from the original selectors. We paid £2 an acre for it in the latter portion of 1887. Land hereabouts has increased a great deal in value since then. The construction of the Jerilderie-Berrigan railway has Mr. W. D. Drummond. 21 July, 1896.

Mr. W. D. Drummond. 21 July, 1896.

had very little to do with the enhancement of the value of the land. We have not felt the effects of the construction of that railway yet. The land was worth as much three or four years ago as it is at the present time. The same price was paid for it then as you would get now, but there is no doubt that the existence of the railway would increase the value of land. Of course the original selectors, or at any rate a good many of them, did not know the value of the land. Soon after we came here a good many men who had been used to farming in Victoria came here. We went in pretty largely for farming and advertised the place a little, and others came from other parts, and the increase in production brought the district to the front, and, of course, people who now require land are prepared to pay a higher price for it, because they know for a certainty that the land is valuable. Increased railway facilities will enable the Berrigan farmers to get a little more profit on their produce—a difference of at least 1s. a bag for wheat, and it would amount to from £100 to £150 per annum to some of the farmers around here. I think that the production of wheat in this district during the last five years has increased fourfold, or more than that. There is no doubt that the prospect of a line being constructed from Jerilderie to Berrigan had a certain amount to do with an extra area being put under cultivation, but there would have been a very large area put under cultivation here without any railway, because of the demand for this class of land to grow this quality of wheat. The wheat yields are very good average yields, and the wheat is of good quality. It is consigned principally to Sydney and to country millers. Country millers last year bought a large quantity. I purchased about 25,000 bags of wheat last year, and the bulk of it went to country millers. The wheat which goes to country millers from this district finds its way principally to Sydney. The local demand is very small compared with the output of the mill at Jerilderie. therefore, the bulk of Mr. Wise's flour has to go to Sydney or some other large centres of population. The Railway Commissioners have made a difference in the freight between wheat and flour. The rate for wheat from Jerilderie to Sydney is I think, 13s. 7d. per ton, whilst the rate for flour is 15s. 9d. per ton, so that there is a difference of 2s. 2d. per ton, which practically means that the country miller is put out of the market until the city miller is supplied. Consequently, it does away with competition between the millers, and acts against the interests of the farmers. No representations on the matter have been made to the Railway Commissioners yet, but I certainly think that there should be, because, in a way, it affects the country millers, but it comes upon the farmers in the end.

To Mr. Black: The difference between the freight on flour and the freight on wheat acts prejudically only when the local miller has a surplus, not locally consumed, for which he desires to find a market in Sydney, but the bulk of the flour that is ground in the country mills is sent to Sydney or Newcastle, or some of those places where there is a large population. The local requirements are very small in comparison to what is sent away.

To the Chairman: Not very much flour is sent by the Sydney millers into the country. I think that the freight acts against their sending it into the country; but I am not clear on the point. I have a pretty fair knowledge of the district in and around Finley. It is all similar country to the land I was in occupation of a little while ago—good farming country. It is capable of producing quite as good yields as I have spoken of. The farmers in the Finley dirtrict are handicapped by having bad roads to travel over and by the rates for the carriage of their produce being so high. Of course, the more facilities the farmers have, the greater the chance they have of competing in the markets. There has been a large increase in the settlement in that district of late—mostly on the share system of farming. Provided that the land in that district is made available for settlement, I think that by giving further facilities to the farmers for the carriage of their produce, increased settlement in the district would be brought about—that is, provided that the squatter were prepared to sell his estate at a reasonable price and allow these people to become freeholders instead of only landholders. Some people may take up the land on the leasehold system. They have done it in the past and I suppose they will do it for a good while in the future; but, the settlement is not regarded as being so solid as it is where the farmers are freeholders. Of course, there is a large number of farmers west of Finley who own their own properties as well. As to whether I have ever known the farmers in the Finley district to be seriously inconvenienced by the fact of the roads being in bad condition, I may say that I know they were at an equal disadvantage with the farmers in Berrigan, in sending their wheat to Jerilderie. In giving our evidence before the last Sectional Committee who came here, we claimed 8 miles from here, west of Berrigan, as a supporter of the Jerilderie-Berrigan railway. If the proposed line from Berrigan to Finley be constructed, the wheat produced within the 8 miles limit, will be put on the line at an intermediate station between here and Finley, and the result of course will be that the quantity of wheat which we stated would come to the Berrigan railway station, will be reduced to that extent, and it will be credited to the Finley-Berrigan line. I do not think that a great proportion of the wheat that is produced within that limit of 8 miles will be conveyed on the Finley-Berrigan line—it will for a certainty be put on at an intermediate station. I do not think it is probable that there will be much stock traffic merely from Finley to Berrigan, but some stock might be sent along the proposed line for conveyance to Sydney. There was a very large stock traffic from Jerilderie railway station last year, and a large number of sheep went from this district and the Finley district, more especially from Mr. Faulkner's. They went to Sydney last year, and I presume that some will be sent again, if the market be favourable.

To Mr. Black: Flour requires more careful handling than wheat—there is more risk about it. The Railway officials use the same tarpaulins and the same trucks for flour; therefore, I do not think they take extra care with flour. They always put tarpaulins over wheat, because if the wheat got wet in transit, it would weigh so much heavier at the other end. From personal observation I do not think that the railway officials take much more care with flour, and I was at the station for two years seeing them loading every day. When I came here I came from Victoria. My brother came here to buy some sheep. The auctioneer said that he could not sell him any sheep but could sell him some land. He offered him land at from 31s. to £2 an acre, equal to land in Victoria which was then fetching from £6 to £7 an acre, and as we did not consider that the facilities offered in Victoria were sufficient to make up for the higher price of the land there, we came here and took up land and were the means of inducing at least a dozen others to do the same afterwards. At present there is very little difference between the cost of living here and the cost of living in Victoria, but it has been a good bit higher. As to whether we get a higher or a lower price here for our produce, I may say that on the average for the last seven years it has been in our favour. I am not sorry that I came here, on the contrary I am glad I came. I would not go back, anyhow.

To Mr. O'Connor: I believe that the extent of Mr. Faulkner's station is 170,000 acres, or thereabouts.

Mr. W. D. Drummond. 21 July, 1896.

I have not the slightest doubt that Mr. Falkiner would be willing to sell a large quantity of his land if he could sell it at a fair price, and that a good deal of it would be purchased. I have not any idea what area might be taken up. That will depend a good deal on the next season. I have said that the land in this place improved in value after it was decided to construct a railway from Jerilderie to Berrigan. I heard Mr. Greggery give his evidence here yesterday. I heard him complain about the manner in which the contract for the construction of that railway is being carried out. I think that Mr. Greggery had good ground for complaint. As to the reason offered by the contractors for their dilatoriness in carrying out that contract, namely, difficulty in obtaining sleepers, I say that they have no occasion to get any extension of time on that account. I say so for this reason: Messrs. Tuck Brothers, of Cobram, sawmillers, asked my brother to see if he could get them the contract for cutting the sleepers at Barooga. I was in Jerilderie at the time, and my brother told me to see Mr. Finlayson, one of the contractors. I did so, and asked him if he required any sleepers for the Berrigan end of the contract. He informed me that he would want 10,000 sleepers 5 miles north of Berrigan, and 10,000 sleepers 11 miles north. I wired to Messrs. Tuck Brothers, and they told me that they would cut the sleepers for 2s. 2d. at the mill, or would deliver them on the line, at the places stated, at 3s. 6d. 3s. 6d. delivered was a bit on the high side. I made inquiries from teamsters and I found that they could be delivered for 9d. a sleeper, or 2s. 11d. delivered on the ground. I told Mr. Finlayson so. I think that that was in January of the present year, or the beginning of February. It was very shortly after Mr. Finlayson came to Jerilderie. I am informed that the contractors are now paying 1s. 3d. for delivery alone; therefore, they are paying 6d. more for delivery now than they could have then got the sleepers delivered for. The non-completion of that railway within the contract time has inflicted a decided loss on those men who have held wheat here, and the Railway Commissioners may even now lose the freight on it.

To the Chairman: The number of men employed on the construction of the Jerilderie-Berrigan Railway, from time to time, has varied very largely. I have had occasion to travel once a week along the Jerilderie-Berrigan Road during the last two or three months, and I have seen as many as 120 or 130 or perhaps 150 men working, and at other times as few as 50. I do not know how many men are employed there at the present time; I cannot speak with regard to the last week or two. When I have seen the larger number of men employed they have been employed more particularly in connection with the earthworks.

To Mr. Black: I can tell the Committee at what price wheat can be remuneratively produced in this district in ordinary seasons. I know the price at which it can be done by contract, and it can be done at considerably less by farmers who use their own teams. For ploughing, harrowing, and sowing in this district I allow 8s. an acre, and I put down the harvesting at 5s. an acre, and the bags (four bags) at 1s. 9d. an acre, whilst the cartage to Berrigan from about 8 miles out would be about 6d. a bag, or about 2s. an acre, which would make the cost altogether by contract 17s. 3d. per acre. An average crop I put down at 15 bushels, at 2s. a bushel, which would make 30s. an acre, leaving a profit of 12s. 9d. as the return for the farmer; so that if a farmer having 320 acres let the work in connection with the whole of it by contract, he would get a return of 12s. 9d. per acre at 2s. a bushel; therefore, it would pay at 2s. If the farmer did without the intervention of contract labour, his profit would be more. Say that a farmer had under wheat cultivation 320 acres of land, worth £1,000, the interest at 7 per cent. would be £70, and that would leave him about £130 per annum profit on 320 acres under wheat. As regards the throwing open for pastoral purposes of large areas now held as freeholds, and the effect which the opening of a railway in proximity to such properties would have on the prospects of small men who want to lease or buy land from the squatters, I should think that land in close proximity to a railway is, from a farmer's point of view, worth at least £1 an acre more than land that is some distance from it. I think that the first effect of the construction of a railway on land fit for agricultural purposes, but now used for grazing purposes, would be to increase its sale value, and also its rental value—(I know that this last season the construction of the Jerilderie-Berrigan railway put 2s. an acre on land in close proximity to it)—thus to some extent preventing the small holders who are desirous of taking up agricultural areas from getting them at such reasonable prices. If the Government are desirous of settling people on the land in small holdings, I should certainly be in favour of the Government, prior to constructing railways through large freehold estates, enacting some provision which would enable them to resume those lands at their market value; and I am confident that the Government could, before the lines were constructed, purchase the land for fully £1 an acre less than they could afterwards, and the Government could let the land again at a more reasonable rate than the pastoral holder would be prepared to do. In such a case the enhanced exchange value arising from improved railway communication would become an asset of the State instead of an asset of the private landholder. I think that all through this district there is a large number of large areas which are eminently suitable for agricultural purposes and which are now held by private owners. I think that as regards any of the pastoral holdings right through this portion of the country, an arrangement could be made by the Government with the present owners for the Government to take over the land now at a price that would repay the State, and the Government would be able to let the land within a month after it became their property and get 6 or 8 per cent. interest on it. I know the Brookong Estate—the late Mr. Halliday's. I have been over it two or three times. Taking it as a whole, it is very good land. The greater portion of it is of such a character, and is so situated, as to be suitable for agricultural purposes. The only drawback that I could see was want of railway communication. I have heard on very good authority that the company that owns the Brookong Estate now is prepared to sell it at £1 15s. an acre. If a railway were made through that estate, or near it, and if it were cut up into blocks for agricultural purposes, I should say that its value would be increased by fully £1 an acre. I think that 640 acres would be sufficient for any settler. Anyone who cannot make a fairly good thing out of 640 acres would be a failure with a larger area. I think that Brookong Station consists of about 200,000 or 250,000 acres. If the whole area were taken up, it would accommodate about 400 settlers. If the Government were to resume that land I should not favour their selling it at all, but leasing it under the present homestead selection system. I have not figured it out, but presuming that the Government were to charge an additional 10s. an acre, because of the construction of a railway, and presuming that all the area were taken up, I suppose that the Government would reap a profit of about £128,000. Under those circumstances I am in favour of such a property becoming a national asset; but I am also in favour of the Government purchasing the land and letting it at a rate of interest which would pay for the borrowing of the money, and also a sinking fund of 2 or 3 per cent. towards paying off the liability which the Government incurred in buying the land.

Herbert

Herbert Royse Lysaght, Esq., Manager, Commercial Banking Company of Sydney (Limited), Berrigan, sworn, and examined:—

H. R. Lysaght, Esq. 21 July, 1896.

To the Chairman: I am manager of the Berrigan Branch of the Commercial Banking Company, of Sydney, (Limited). I have been in this district five years. During that time I have had very good opportunities of judging of the capabilities of the district. I have come into frequent contact with farmers throughout the district. I have a fair knowledge of the district which would be traversed by the proposed line from Berrigan to Finley. I have not a very large knowledge of the district beyond Finley which would be served by this line. I know it generally, but not in detail. I certainly do think that the facilities that would be afforded by the proposed railway to Finley would be availed of by people beyond Finley. During my residence in this district, I have found the farmers a very good class of farmers indeed. They have been very largely inclined to extend their areas from year to year. There has been a great increase in the production of wheat in the district, more particularly during the latter portion of that period. I should think that the average production of wheat during the last five years has been quite four times as much as it was before; therefore, it would be natural to suppose that four times as much land has been put under cultivation during that period. So far as my knowledge goes, every year during the last five years farmers whose land has been well farmed have had good average crops. I have heard them complain of the want of proper facilities or better convenience to get their produce to market. That has been one of the great drawbacks in this district so far. I do think that the proposed railway, if it were constructed, would be taken advantage of considerably by settlers in the district. I also think that if more land could be made available for settlement, increased settlement would take place on account of the construction of this railway. There is a great demand for land in this district, but more for leasing, or on the halves system than for genuine purchase. I think that the adoption of that system has been brought about simply by the fact of want of means on the part of the farmers to buy the land. They would all prefer to purchase it if they could.

To Mr. O'Connor: They take it on that system as the only alternative.

To the Chairman: I think that if terms were offered them to lease the land for a certain period, and afterwards to purchase it if they desired, those terms would be availed of, if the purchase money were not put at too high a figure. The value of land in its rough condition, at the present time, in this district, is about £3 an acre; that is, picked land—good wheat-growing land.

To Mr Black: Land that has been grazed and well manured by sheep for a number of years, I would put down at £3 an acre.

To the Chairman: The actual clearing and subdividing of the land, I suppose, would cost from 10s. to £1 an acre, according to the quantity of timber upon it, and therefore the amount of work to be done.

Mr. Lazarus Harris, store-manager, Berrigan, sworn, and examined:—

Mr. L. Harris. 21 July, 1896.

To the Chairman: I am the manager of the Berrigan branch-business of J. and H. Harris, storekeepers. I have been living in this district between seven and eight years.

To Mr. Black: I do not object to answer questions which only require general answers. Our business here is a branch of the Jerilderie business carried on by my brothers. The bulk of our goods is bought in Sydney. Some of those goods are conveyed from Sydney to Melbourne by water, and thence by rail to Yarrawonga, and thence to Berrigan by team. The goods intended for sale in Jerilderie are for the most part conveyed from Sydney to Jerilderie by rail. Only a small portion of them goes round this way to Jerilderie. That method of conveying our goods for sale in Berrigan will not be altered when the Jerilderie-Berrigan Railway has been completed—at least, not under present freight rates. Our goods do not now come *via* Melbourne because of the proximity of our Berrigan branch to the border, but because some goods—not all lines but only a few heavy lines—can be carried even to Jerilderie more cheaply *via* Melbourne than from Sydney direct. So far as we are concerned, the Jerilderie-Berrigan railway will act more as a feeder to the Victorian railways than to the New South Wales trunk line; therefore, so far as our business is concerned, any extension of the Jerilderie-Berrigan railway, either southerly or westerly, would feed the Victorian railways and not the New South Wales main line. I know the country towards Finley and around Finley. I think there is as much land under crop in the district at the present time as there will be in future years, even if a railway from Berrigan to Finley were constructed, unless the price of wheat went up considerably. My reason for thinking that, even with increased railway communication there would not be much increase in the area under crop is that most of the land around Finley is leased, some of it on the share system, whilst the other portion, I understand, is leased at so much per acre; and after four years' cropping I reckon that it will be thrown out of cultivation and new land will be substituted for it. I do not mean to say that there is not plenty of land around Finley fit for cultivation, for I think it is all good cultivation country. I do think that if there were a greater quantity of land available for settlement in the neighbourhood of Finley and Berrigan, at moderately low sale prices, or low rental, settlers would be likely to take it up, especially at the present price of wheat. Settlement is limited here to some extent because land rentals and values are rather high. I am not against the railway being carried on to Finley. I cannot say that, my interests being centred in Berrigan, I am not particularly in favour of the proposed railway. I reckon that Finley has as much right to a line as Berrigan. My candid opinion is that, after a year or so, wheat from Finley, instead of coming to Berrigan, will still go on to Jerilderie, or some intermediate station between Berrigan and Jerilderie; therefore, I do not think that even a good road would do much good to Berrigan in regard to Finley. What I mean is, that I think that if it were necessary to make a road, it would more aptly meet the requirements of the traffic by being made from Finley direct to Jerilderie. In the case of very heavy rains the roads are bad. They are bad at the present time.

To Mr. O'Connor: I have not formed any opinion from a national standpoint as to whether the construction of the proposed line from Berrigan to Finley would or would not be good for the Colony. To speak candidly, I have not given the proposed line a thought. I do not think that a man, speaking without any great preparation, would advocate anything against himself. The distance by road from Berrigan to Finley is about 15 miles. The land is about as level as the land between here and Jerilderie. The roads are very bad in wet weather, but for the past seven or eight years we have always managed to get our merchandise through, and there is very little wheat carting, unless by farmers themselves, during this time of the year. Although the roads are bad during a certain season of the year, we do not make

provision

Mr. L. Harris. 21 July, 1896.

provision for that by purchasing very largely during the dry seasons. At the present time we have more goods coming into Berrigan—during last week, and the present week, and next week—than during any portion of the dry season of any year. It is bad business for a person to buy largely in summer to carry him over the wet months, if it is possible for him to get the goods through at all during the wet months In importing a considerable proportion of our goods by way of Melbourne, we do it on the ground of economy. If facilities were afforded, on economic grounds we should communicate direct with Sydney; it is only on the grounds of the higher freight that we do not do so. I can safely say that land here was more valuable five years ago than it is at the present time. The low values of wheat and stock, I should imagine, have brought about the depreciation to a great extent. The proposed extension of the railway from Jerilderie to Berrigan had nothing whatever to do with it. Neither has it improved the value of land so far. Land that about five years ago was offered at £4 an acre, was put up, under the hammer, only a few weeks ago here, and only £2 5s. an acre was offered for it. That land is within 4 miles of the railway line, in the direction of Jerilderie. I cannot say that things are improving in regard to land values; taking that as an instance, I should think they were not improving. I should imagine that, after the construction of the railway from Jerilderie to Berrigan, things would improve, but so far it has not improved matters.

To the Chairman: If we take the floating population, I really think that three years ago there were very nearly as many people in Berrigan as there are at the present time. There was a large number of people camping about and going about. I think that three years ago the ordinary population of Berrigan was slightly under 100. I cannot tell you exactly how many buildings constituted the town or village of Berrigan at that time—approximately there may have been fifteen or less, or a few more. About five years ago there may have been from twelve to fifteen houses here, and the population was very close on 100. I should think that the population of Berrigan Village to-day is about 300, or it may be slightly over 300, and I should think that there are between forty-five and fifty buildings—there may be more. The incentive for increased settlement to take place has not been given since the proposal was made to extend the railway from Jerilderie to Berrigan. The increase of settlement in this district was started, I think, by the proprietors of Momolong holding leasing their property for farming purposes. I should imagine that that would account for the establishment of the different businesses here which have increased so much within the last five years. A great number of farmers came on to Momolong, and I really believe that that was the cause of so many places being put up here. Most of the Momolong farmers obtain their supplies from Berrigan, and a few of them from other places. The value of a half-acre town allotment at the present time depends on the position it is in. Some half-acre blocks here are worth from £180 to £200. Smaller blocks have been sold quite recently for over £100—far less than half an acre. I do not mean to say that five years ago those allotments would have realised the same prices they would to-day. The cause of the enhanced value is the increased population on the land surrounding this place.

To Mr. Black: I was referring to agricultural land when I spoke of the decrease in values.

To the Chairman: I believe that at the present time the Finley people obtain their supplies mostly from Tocumwal. Certainly they have a local source from which they obtain some of their supplies, but most of them speak of Tocumwal as being their business place. I have said that I thought most of the Finley produce would go to an intermediate station or to Jerilderie. As to where that intermediate station ought to be the only thing I can tell you is what I have heard farmers state, viz.:—that a road could be cut to the Berrigan Well, about 5 miles on the Jerilderie side of Dickie's. It is a hard matter to tell where there is a road in New South Wales, but I believe there is a road approaching there now, in fact, years ago I travelled along a road there. From 10 to 15 miles would be the average distance that a farmer round about Finley would have to travel with his produce to that station. I should think that 7d. a bag would be a fair price to pay for the carriage of wheat by team a distance of 15 miles. That would come to about 5s. 3d. a ton. Certainly there is not the least doubt that, if the proposed railway from Berrigan to Finley were constructed, the farmers would send their wheat by it if the carriage were cheaper than the carriage by road to that intermediate station. I have not heard what are to be the charges on the proposed line from Berrigan to Finley, but I have heard what are to be the charges on the Jerilderie-Berrigan line. In saying 7d. a bag I am averaging it according to the price at which wheat is being carried twice the distance. For instance, from here to Jerilderie wheat is carted for 1s. a bag, the distance being about 25 miles, and I reckon the cost at 7d. for 14 miles, which is a bit above the average. I do not think that the proposed line from Berrigan to Finley will have the effect of bringing more land under cultivation. I have travelled a good bit in this Colony, but I have not had very much opportunity of judging as to the causes of the development of our agricultural resources. In Victoria I have known of good agricultural districts—really first-class country—where, before there was railway communication, farming was gone into very largely, and when railway communication was established there, the country was all turned into sheep fields again. Therefore, whether the railway will or will not bring about more cultivation here, I do not know. At the time prices were very good for wheat, and it was nothing unusual for the people there to get from 30 to 60 bushels an acre. I do not think that the land there became exhausted. There was plenty of land there the same as there is here. I think that the prices of wheat were very fair throughout the time the people there were cultivating. A great number of the people who have settled here have come from Victoria. I think that the reason that brought them here was that the land was good, and they could get a larger area for less money. A good many of them have been very successful. I do not supply the farmers of Finley with very much goods. The places in Victoria to which I referred just now were around Casterton, in the western district of Victoria. The reason why we bring some of our goods from Sydney *via* Melbourne, is merely because of the difference in freight, therefore differential rates assist us very little. There are some lines in regard to which the differential rates do assist us, whilst in regard to others they do not. We have our own team, and we also employ carriers. I should decidedly not call the road from Jerilderie to Berrigan a fair road. I have a knowledge of the road between Berrigan and Finley, but I cannot speak much of it. I cannot say whether it is good or bad. I have usually travelled over it in fine weather. I have not formed any estimate as to what it would cost to make a good permanent road from Berrigan to Finley. There is a quarry within a mile and a quarter of this township. The material to be obtained from that quarry consists of granite and gravel, which makes an exceedingly good road for heavy traffic, and there is a very large quantity of it.

To Mr. O'Connor: At the present time an ordinary team could carry 5 tons. When speaking of 5s. 3d. a ton I am speaking of the time when 10 tons could be taken by a certain number of horses, and when the

Mr. L. Harris. 21 July, 1896.

the same number of horses could pull twice as much as at the present time. There are waggons on the road capable of carrying 20 tons. It would require twenty-four bullocks to pull a 20-ton waggon, or it would require about twenty-two horses. A load of 18 tons has been dragged from Finley to Jerilderie by twenty-four bullocks. I should imagine that it took them from two to three days. The charge at that time was 9s. a ton, therefore the total charge would be £8 2s.

To the Chairman: I do not know that I shall be affected in any way by the construction of the proposed line from Berrigan to Finley; but I have been informed that the line will go through my property. There are no pegs put down through my property, except those that I have had put in by a surveyor lately. As to whether I, as a patriotic citizen, am prepared to hand over whatever land is required in connection with the railway, my pocket is where my patriotism ends. I expect to be compensated for any injury that may be caused to my property. We have surveyed a portion of our land opposite the railway station into township lots.

To Mr. O'Connor: Our land happens to be in a different position from that of the land I have spoken of as having depreciated in value.

To the Chairman: I am not going to offer my land at the figure I originally gave for it. Everybody likes to make a profit.

Mr. Ernest Gedye, storekeeper, Berrigan, sworn, and examined:—

Mr. E. Gedye. 21 July, 1896.

To the Chairman: I am a general storekeeper in Berrigan—one of the partners in the firm of Gedye Brothers.

To Mr. O'Connor: I have been here three years last month. This locality has gone ahead very much since I first came here. So far as the town of Berrigan is concerned, the value of land has improved compared with what it was three years ago, and the population has much increased. I think that the construction of the railway from Jerilderie to Berrigan has had something to do with that. A man living 3 or 4 miles, or even a greater distance from this town, would receive benefit from the construction of that line. We get our goods principally from Melbourne. We buy them for both of our stores, our other business being at Cobram, in Victoria, and our Berrigan business being a branch establishment.

To Mr. Black: I do not suppose that we should buy nearly everything in Melbourne if we were to close our Cobram business. Goods intended for our Berrigan store come through Cobram. We drop a portion of them *en route* at Cobram. The carriers' charges for the conveyance of goods from Cobram to Berrigan would average about 15s. a ton—that is, taking good and bad seasons. We have not a contract with any carrier. We get goods carried for 10s. a ton in summer, and for £1 in winter; but, striking an average we get a mean of about 15s. a ton. As to whether the construction of a railway from Berrigan to Finley will have any effect, prejudicial or otherwise, on our business, and on the growth of this town, I may say that I have not considered the matter very much, but I do not think it would make any appreciable difference.

To the Chairman: We do get some of our goods from Sydney—certain lines, but not very many. We can get them cheaper in Sydney, but the freight from Sydney is very heavy, and that makes the cost of them about the same as that of the goods from Melbourne.

To Mr. Black: We do buy produce from the farmers here. We pay cash for all of it, and we buy only what we can sell over the counter again. We do not buy any bulky produce such as wheat or oats, but butter and eggs, and that sort of thing. If we should at any time buy and sell wheat or oats, and we found that our market for that was in Sydney, I suppose that Sydney would then also be our market of purchase.

To the Chairman: I only know from hearsay that the land is very good between Berrigan and Finley, and beyond Finley. I am not in a position to say whether the prices for farm land in this district have been maintained throughout the time that I have been here, or whether it has increased in value. I do not know that the value of agricultural land in this district, during the last three years, has depreciated. I do not think it ought to have done so. Land on Barooga Station, three, four, or five years ago, brought a very fair price. I should not like to say that the prices of land in this district have improved; I have not studied the question much. If the Berrigan-Finley district were a settled one, the construction of the proposed railway from Berrigan to Finley would be of great benefit to the farmers. If they were settled there, and had further facilities to send their produce to market, I think that the construction of this railway would be an incentive to them to place greater areas under cultivation; but I think that the settlement would have to be under a favourable and satisfactory system, instead of on the share system. The settlement in the district of Berrigan has increased whilst I have been here, as regards the halvesmen. Most of those people have come from Victoria, I think. I have found them ready to accept the terms offered to them to settle on the land—some of them have been very glad to get it, I think. I am hardly prepared to say whether that is because they cannot, as regards the price of land, carry on farming operations under such favourable conditions in Victoria as they can here; at any rate it is not likely that they would choose the worst colony to come and live and settle in. The soil is very good in this district, whilst perhaps the land at the places where they have been in Victoria is, to a great extent, worked out. I am not aware that some people have let areas in the Berrigan district to some of the settlers at an annual rental. I think that the land is let mostly on the share system. I have not heard of any cases where they are paying as high as 6s. or 7s. an acre per annum for the use of the land. It is possible that if the rates are modified, our firm may patronise the Sydney market direct by rail. There is no doubt that Sydney would get more than half our orders for goods, if the freights were at all reasonable.

Mr. John Jones, farmer, Berrigan, sworn, and examined:—

Mr. J. Jones. 21 July, 1896.

To the Chairman: I am a farmer residing 3 miles from the town of Berrigan in a north-west direction. I have 640 acres of leased land and 640 acres of purchased land. I have 1,000 acres under cultivation. All of this land is not bearing crop, but it is under cultivation—some of it is lying fallow. I acquired the first 640 acres by purchase from an original conditional purchaser eight years ago. I paid £3 an acre for it. For the other 640 acres I pay an annual rental of 5s. per acre to Roderick M'Donald, a landowner next to me. I acquired it on a seven years' lease, with the right of purchase at £5 per acre. I do not think that the values of land have depreciated at all since I purchased—I mean, that they have not depreciated from £3. As a matter of fact, there has been a lot of labour and money expended on the land and it has in a way depreciated in value, because, although a lot of labour and money have been expended

Mr. J. Jones. 21 July, 1896.

expended on the land, it is not worth very much more now. As a rule, the farming carried on here is systematic farming, and the farmers are very fair farmers. My average yield of wheat since I came here has been about 20 bushels per acre. I had 19 bushels last year. The year before the crop grew well, but it was a very rank crop, and the season was against us, and I did not get quite as much that year. There was more grown on the ground, but bad weather at harvest-time wasted it—we could not get it off. I send my wheat to Jerilderie. I shall not be served at all by the proposed line from Berrigan to Finley. I shall bring my produce to Berrigan. There will be no station on the proposed line from Berrigan to Finley which will accommodate me as well as Berrigan. I am not more than 2½ miles from the Berrigan railway station. During the last five years there has been a great increase in the settlement in the district. There has been a great demand for land—in fact, a demand that has been unsatisfied. The capabilities of the soil are pretty much the same throughout the whole district. I have every reason to believe that if areas were available on reasonable terms they would be sought after by agriculturists. I cannot say exactly what has been the increase in the number of settlers during the last five years. I know there has been a great increase, and I think that pretty well all the available land in this district has been put under wheat. For every block of land that has been thrown open lately, there has been a number of applications. At Corowa some time ago there were about 5,000 applications for about ten blocks.

To Mr. O'Connor: I could not say what was the area of the ten blocks, but I think the lot would amount to about 5,000 acres.

To the Chairman: Those applications came from a mixed lot of people. Some of the people who are working on the halves system here had applications in, but the applications were principally, I think, by people from Victoria, most of whom have worked out areas in Victoria. My produce has been conveyed to Jerilderie by team—not altogether by my own team. I have paid as much as £200 in one year for freight between here and Jerilderie—the average being from 9s. to 10s. a ton. Therefore there will be a considerable saving to me owing to the construction of the Jerilderie-Berrigan railway. I know the district round about Finley pretty well. I think the farmers there suffer much from the want of proper means of getting their produce to market. Every farmer suffers from want of railway communication. It is a big help to a farmer to have a railway near him. I know instances in which not having a railway near him means all the difference between a profit and a loss. Last season twelve months I could have made four times as much as I did if I had had a railway here. I am not prepared to say that the extension of the railway from Berrigan to Finley would bring about larger settlement in the district and bring more land under cultivation. I fancy that between here and Finley the land is pretty well settled on now. It is all under wheat between here and Finley. I cannot speak as regards the district beyond Finley, but I daresay that if favourable conditions were offered to the settlers there they would be likely to cultivate the land.

To Mr. Black: I run about 500 sheep on my land—sufficient for killing purposes. I could carry a sheep to the acre, and cultivate 500 acres—I mean over my whole area under cultivation. I should have to grow some feed for them in the shape of lucerne, and perhaps straw. The amount subtracted from the grazing area does not reduce the number of sheep I could carry—it has the opposite effect—but, although I have increased the grazing capabilities of my land, I have not increased the area under sheep, but have also 100 head of cattle and horses on the farm. I run the sheep over my land after I have taken off the crops, and also sometimes while the crop is growing. Lucerne grows very well here. It does not die out at all. It gets bare in summer time with heavy feeding, but the first shower of rain brings it up more quickly than any grass. It is difficult to eat it out. I think that lucerne is practically inexhaustible if you treat it properly. I have read about it on the Darling Downs being ploughed up after twenty years, and then coming up stronger than ever. It certainly is very hard to kill. My yield of hay per acre is about 30 cwt. We have not grown special hay crops, but from this time out we shall be growing special hay crops, and the chances are that we shall raise 2 tons to the acre. We sow it for a wheat crop and do not sow it very thick, and only cut margins round the crop for hay. I think we could grow wheat profitably at a selling price of 2s. 6d. a bushel, and oats at about 1s. 6d. I could not increase my cultivation area because I am cultivating up to the hilt now. I anticipate that we shall not grow wheat or oats for sale so much by-and-bye as we do at present, because we shall be going into other industries in which there will be more money. The district is very suitable for dairying, which would pay better than wheat-growing if we had railway communication by which we could send away the cream, milk, and butter. I have every reason to believe that the farmers will co-operatively start a creamery here—there is some talk already about starting one. We grow very good fruit here. As a matter of commercial speculation, the distance from market has, of course, not been an inducement to farmers to go largely into fruit-growing, in fact, if they go largely into fruit-growing here, they will have to go into the canning business. I think that peaches and apricots have the best prospects of success here. These fruits are used largely for canning in other places. This is a very good grape-growing district. There are not any wine-makers in this immediate district, but there are wine-makers not far away, and I anticipate that wine will be yet made here. America makes more out of her pigs than her wheat, and pigs do very well here. Many of the people in this district have been doing only preliminary work up to now, and they have only just got their places in working order, and have not had time to go into new industries. At present there is no market for pigs, but I think that if a man had money and enterprise enough to come here and start a bacon factory, it would pay.

To the Chairman: This district is suitable for raising turkeys. I think that the raising of turkeys is right enough as an adjunct, but you could not altogether make a living out of it.

To Mr. O'Connor: This district is not a "one horse affair" at all. I am quite sure that there are many industries which, if properly entered into with spirit and enterprise, and regulated with intelligence, would make this a very prosperous district. Not only is it possible to produce wine and fruit here, but also pigs, the raising of which is one of the most profitable industries in America, and in fact keeps up one of the greatest States in that country.

To Mr. Black: I gave evidence before the Sectional Committee that was here with reference to the Jerilderie-Berrigan railway. I then stated that I had a paddock of 400 acres ready to cut for hay, but as a matter of fact I did not cut that for hay. If the railway had been here I would have cut it for hay. I got a return of 15s. 6d. an acre off that for wheat, and it would have given me about £7 an acre if I could have cut it for hay. I got £5 a ton for chaff in Sydney last year. I do not think that wheaten chaff is principally bought to mix with oaten. But I do not know that people in Sydney mix them.

WEDNESDAY,

WEDNESDAY, 22 JULY, 1896.

[*The Sectional Committee met at "Burbury's Hotel," Finley, at 3 p.m.*]

Present:—

FRANK FARNELL, Esq., (CHAIRMAN.)

The Hon. DANIEL O'CONNOR. | GEORGE BLACK, Esq.

The Sectional Committee further considered the proposed Railway from Berrigan to Finley.

Mr. John Crowe, farmer, near Finley, sworn, and examined:—

Mr. J. Crowe. 22 July, 1896. *To the Chairman:* I am a farmer residing to the south-west of Finley, about 8 miles from here. I have been in the district twenty years last July. I and my brother have 3,200 acres, of which 480 acres are under wheat this year, and about 350 acres are laid down with lucerne. The balance of the area mentioned by me is used for grazing purposes. We generally shear from 4,500 to 4,600 sheep, and we have about 100 head of cattle and 50 horses. Taking the whole year round, our land, I think, is capable of carrying two sheep to the acre, without any other stock. The average yield of wheat from the area under cultivation has been about 16 bushels per acre during the last fifteen years. We have not had the same piece of land continuously under wheat cultivation, but we have had land that way for ten years and then put it under lucerne. We do not keep always on the same piece of land—not that the land will not allow it, but because it gets foul with wild oats and is not fit to grow wheat, and we then put it under lucerne, and use it for grazing purposes. If the land did not get foul with weeds and wild oats the wheat cultivation could go on for a generation. The wild oats is a sort of wild stuff that grows up; it is a very good fodder plant, but will not do with wheat. We have also sown oats, which do very well. I have got sixteen bags of oats to the acre. I have never tried growing barley, but my neighbours have, and have done well with it. There is not much demand for barley in New South Wales; and with the duty of 1s. 9d. we cannot do anything with it in Victoria, although there is a good demand for it there. It would not pay to grow it here and send it to the Victorian market on account of the duty. The price for wheat last season was very good. The year before the price was very light. We had to sell at 1s. 9d. and 1s. 10d., and that was a very poor price for wheat, for although we got four bags to the acre there was not much in it after all. This year the price was very good; we got from 3s. 9d. to 4s. If we always got 2s. 6d. a bushel for wheat we should do very well. I consider that, with the crops we generally get in this district, if we obtain 2s. 6d. a bushel for wheat in Jerilderie, we can live and pay our way. The wheat grown in this district is the best in the world. We plant the "golden velvet" and various other kinds of seed-wheat. We look for four bags to the acre, which is 17 bushels, and we consider that we have a fair crop when we get that, and if we get 2s. 6d. a bushel for it in Jerilderie we can live and pay our way. I have not tried an experiment with the Bræmar, the Tasmanian wheat. I never try much experiment with wheat—I use just the common wheat. My brother and I acquired the 3,800 acres by selection at £1 an acre; but interest comes in, and that takes a long time to rub off. We paid 5s. an acre down, and have to pay 1s. a year per acre until we complete the purchase. I do not know how long that will last, but it has lasted a long time. We have been paying it for twenty years. The payment of interest is a bit of a handicap. In Victoria the people pay 6d. an acre and get the land for 20s., but we really have to pay 40s. I suppose that the land on the other side of the border is now fully taken up; people who want land are now coming here from Victoria. We have 100 ballot-papers in for one block. When I started it cost me £2 10s. an acre for clearing. But now, thanks to bush fires and ringing, and the timber dying out, people can get the clearing done for 6s. and 7s. an acre; however, I have never got any done for less than from 10s. to 16s. an acre. When I get it done, I like to pay a man a fair amount for his work. There is no doubt that if some of the Crown lands or properties belonging to squatters were thrown open there would be a great demand for land for settlement in this district. I think the travelling stock route should be thrown open; I do not mean all of it, but let some intelligent man go along and say, "Here is good land enough for camping ground," and set aside a 320 or 640 acre paddock for camping in several places, and then chalk off the remainder of the travelling stock route in 320 or 640 acre blocks for settlement. If that were done, and if proper blocks were picked out for cultivation, there would be fifty applicants from Victorians, and in some cases there would perhaps be a hundred applicants for each block. I think that most of the demand for the land would come from people who are anxious to settle on the soil, and who are at present in Victoria. If those blocks were advertised there would be a regular rush from Victoria. I think that the capabilities of the soil here are much better—the country in Victoria is overrun and worked out. All the farming land in Victoria has been taken up and worked out, and it is going wild with rubbish; and they cannot grow a crop of wheat or barley on it unless they plough it three or four times to keep the rubbish down; but if they come here they obtain good soil, and get four or five years' good run off it. The people in Victoria are going in a good deal for dairying. The farmers there have large families, and a farmer can keep part of his family at home, and send part of it here. People who have six, seven, eight, or ten children, have, perhaps, four or five sons fit to come here, with money enough to take up land, and they take up land, and add to the population of this country. I do not want an inch of the travelling stock reserve, but it is nothing now except a sheep-walk, you may say, at 3d. an acre; although it is splendid country a mile wide and 40 miles long, and there might be 500 families settled upon it, all growing wheat. The travelling stock route extends from Tocumwal to Jerilderie. The squatters on each side of it eat it out. They get the use of it for 2d. or 3d. an acre. It is not put to the *bona-fide* purpose of being used as a travelling stock reserve. The squatters have command over all of it, and if a man is travelling with sheep the squatters have men and dogs to drive the sheep along, and knock them up. I think that a general benefit would be derived from the travelling stock route being thrown open for settlement to a certain extent, leaving perhaps a 640-acre paddock here and there to put sheep in at night to feed, and let them go along a three-chain road during the day. There is very little use for the travelling stock route here now, or at any rate there will be none, because when we get the railway we shall be able to trot our sheep to this place and put them in the trucks, and let them go away the same day. The same remarks apply to Berrigan and Jerilderie—we do not want the travelling stock routes to graze on now. Stock is not travelling, except perhaps some loafer hears there is good grass on it,

Mr. J. Crowe. 22 July, 1896.

it, and goes along loafing. I mean that it is not used as a *bonâ fide* stock route. I cannot say whether there are any other available Crown lands in the district, in the shape of reserves, which might be thrown open for settlement. I do not think there are any in close proximity to the town of Finley. We generally send our wheat to Jerilderie; it is sold to Mr. Wise. The wool goes to Melbourne. It goes over the river at Tocumwal. We send the wool to Melbourne, in preference to Sydney, on account of the cost of carriage. Of course, the cost of carriage 150 miles to Melbourne is less than the cost of carriage 400 miles to Sydney. I have never sent any stock to the Sydney market. I have generally tried to sell stock in the paddock; that has always been my motto. If a buyer comes along I sell in the paddock or the yard, and he takes the stock where he likes. There has been a wonderful increase of settlement in this district during the last five years. Five years ago there was only the Murray Hut here. The settlers have come mostly from Victoria and Tasmania. I think they are a thrifty lot of men, who work their farms in a practical way; in fact, I think they woke us up. Before they came we did not know what we had here. Naturally following the settlement, there has been a wonderful increase in the area put under cultivation, and, following that, there has been a great increase in the yield of wheat and other cereals. I think it has multiplied twenty-fold during the last ten years. Ten years ago very little wheat was grown in this district. When I had about 20 or 30 acres under wheat, I was considered a big farmer ten or fifteen years ago, but now men have 1,500 or 2,000 acres under wheat cultivation; therefore, there is a wonderful difference now. Lucerne does very well. Of course, at this time of the year lucerne does not show at all, because it will not grow in the frost, but in summer-time, if there are a few showers, you can put on five or six sheep to the acre. At present dairying is only carried on for home use, but I think it is possible that in future dairying may be carried on successfully in this district. 'Taking the year all through, the average rainfall is about 16 inches. My favourite average would be 14 inches, if we got the rain in the proper season. With a rainfall of 14 inches everything is better, because we have no foot-rot with sheep, nor rust in our crops. Those are the best seasons I have seen here. When we get a big rainfall the sheep die of foot-rot, or we get the rust in our wheat crops. Even if the proposed railway from Berrigan to Finley were constructed, if I could send my produce and wool more cheaply to Melbourne, I should most decidedly send it to Melbourne; but, if I could send it as cheaply to Sydney, I would send it to Sydney; but, if I could get a man to buy the sheep in the paddock I would sell them there, and let him send them where he liked. I would always make the best market I could for my own pocket. It is of no use anyone saying one thing to get a railway, and meaning another. Whichever market I considered I could make the most money out of, I should go there. So far as wheat is concerned, the proposed railway would be of material advantage to me, inasmuch as it would allow of the carriage of my wheat at a lower price than it costs me at the present time. I should have to send my wheat to Jerilderie, and it would be a great convenience to have the railway here. I should not have to pay half as much for carriage to the railway. If there were a Sydney buyer here I would sell to him if I thought that he was offering me a fair price for it, and if not, I would continue to send it straight to Sydney. It would have to go there. My wheat generally runs 17 bushels to the acre. Therefore, my wheat yield would be about 1,600 bags from the area I have under cultivation. It costs me £1 a ton for the carriage of my wool to Yarroweyah, and its carriage from Yarroweyah to Melbourne costs me 8s. a bale, or about £2 per ton; therefore, a ton of wool costs £3 for carriage from my place to Melbourne. I suppose that if the proposed railway were constructed, I could get my wool carted from my place to the Finley station and ready to be taken to Sydney for about 8s. a ton. If I could get my wool conveyed to Sydney as cheaply as to Melbourne, I should most decidedly patronise the proposed railway. There are a good many land-holders in close proximity to my farm. There is Macnamara's estate of 2,800 acres, which he has rented, and of which there are 1,500 acres, if not more, under crop. That is on the east side of my land. Then there are Burke Brothers and O'Brien, who have from 1,500 to 1,600 acres under wheat; then there are Laing Brothers adjoining my farm on the other side. They have 7,000 acres, of which a large area is under wheat this year. Then there is Mr. Hunt on the other side of the creek, and he has 200 or 300 acres under crop. That is between my place and Finley. O'Brien is only leasing his land from Macnamara, but Laing Brothers is freehold land, and so is Hunt's. These people would certainly avail themselves of the facilities that would be afforded by the railway, if it were constructed to Finley. I know that O'Brien and the Burkes sent their wheat in bond by rail through Victoria to Sydney, in order to save the road carriage to Jerilderie. They said it paid them to do that. But on account of the duty being knocked off, the Californian wheat came in so freely that it blocked the market in Sydney; that was the result of freetrade. I do know that this Colony has not been producing sufficient wheat for its own consumption. If the proposed railway were constructed to Finley, it would be the means of bringing a much larger area under cultivation and we should send plenty of wheat to Sydney. Wheat sent from this district for shipment to England has brought a cental more than any other wheat sent to Melbourne for years past. Mr. Brown, of Tuppal, has sent wheat to England, and has obtained 6d. more than that paid for any other wheat that went to England. I get my supplies from Tocumwal. I always deal in the local market, so that if what I get does not suit me I can send it back again. I do not know that I always deal in the cheapest market. I like good stuff, and if what is sent to me is not good I send it back again. The settlers round about me obtain their supplies mostly from Tocumwal, but most of those supplies come from Sydney, being brought in bond through Victoria. Both the storekeepers at Tocumwal deal chiefly with Sydney and get their things round in bond. The goods are purchased in Sydney and water-borne as far as Melbourne, and then brought by rail and team to Tocumwal. If the goods could be brought as cheaply this way from Sydney by rail, I am sure that the Tocumwal storekeepers would patronise the proposed railway instead of chancing the water carriage. I generally pay about 1s. 3d. per bag, that is 12s. 6d. a ton, for the carriage of my wheat to Jerilderie. The way we have to go in order to get to Jerilderie has never been surveyed, but I calculate that the distance from my place to Jerilderie is 33 miles. Agricultural land about here, in its improved state, sells at £3 5s. and some at £4 an acre. In its unimproved state, I think it would be worth 20s. an acre. My place is about 33 miles from Deniliquin. None of the farmers round about me patronise the Deniliquin-Moama railway—nothing goes there. After you get within 4 miles of my place, the country all belongs to Mr. Faulkner, the owner of Tuppal Station—about 28 or 30 miles belongs to him. It is all freehold. Mr. Faulkner and Mr. Landale have all the country from within 4 miles of me to Deniliquin. At certain times in the year there is a good deal of labour employed on the farms in this district. Of course, in harvest and shearing time we

Mr. J. Crowe 22 July, 1896. have to employ extra hands, and also at ploughing time. I do not send any hay or straw to market out of the local district. This year I could have sold all I had, and I could have sold a hundred tons if I had had it a little while ago, but I kept it in reserve, because I thought we were going to have a dry season, and I would not sell. I think now that I shall sell it. I believe that everyone else is cleared out, and there is no one but myself with any to sell. To grow oats and cut it up into chaff would pay me at £3 a ton. I am getting £4 10s. for it now. White oats do not do well here; but, 10s. a bag would pay well for Algerian brown oats, sold as oats. I have sold crops at 10s. a bag. I have got as much as sixteen bags per acre, but that was an extraordinarily good crop. The average yield is ten bags.

To Mr. O'Connor: As regards the travelling stock route, in my opinion all that is required is to have a camping ground of about 640 acres about every 6 miles. The arrival of farmers from Victoria and Tasmania has done a great deal to develop this district. They are mostly well trained farmers, and the way they have gone in for cultivation has woke us up. I have no idea what the carriage and freight on wool to Sydney may be at the present time. Therefore, I do not know whether I am paying more by sending my wool to Melbourne; but I think that the intermediate carriage between my place and Jerilderie would make the cost more by sending to Sydney. I know well the capabilities of this district. The construction of the proposed railway from Berrigan to Finley would to a certain extent bring about an increase in population here; if land were thrown open, and if Mr. Faulkner would continue to lease his land on the present terms, I believe that the population would increase fivefold or more. If the travelling stock route were thrown open in 320 or 640-acre blocks, for every block there would be 100 applicants, and I am certain that along the whole 40 miles between Tocumwal and Jerilderie every acre thrown open on that reserve would be taken up by *bonâ fide* men who wish to settle on the soil. There would be a rush for that land, and if it were all put up in one day it would be taken up.

To the Chairman: I suppose that the cost of the carriage of wool from my place to Jerilderie by road would be about £1 a ton. If the proposed Berrigan-Finley railway were constructed it would cost me 8s. a ton to bring my wool to Finley. I do not know what the Railway Commissioners' rate is for the carriage of wool from Jerilderie to Sydney; I have never inquired. I do not know that if I sent my wool *via* Jerilderie I should, according to my own statement as to the cost of carriage, reap an advantage of about 5s. a ton, but the question is would we meet with as good a market. As a rule, Melbourne is a better market for stock or wool than Sydney. We can pay a tax of 30s. a head on a bullock and then do better by taking it to Melbourne, than by taking it to Sydney. Not so much animal food is required in Sydney—people there are more refined. Cattle realise higher prices in Victoria than in the Sydney market, the advantage lately having been about 5s. a cwt., or about 30s. a head, which is about the amount of the stock-tax. Bullocks will fetch about £12 or £13 each in Melbourne. I was always hoping that the Victorian stock-tax would fall on the consumer; but unfortunately we have to pay it when we take our stock across the river. If the stock-tax were taken off, I am positive that we should get the same price for our bullocks in Melbourne, because they have not got enough bullocks there, and they must have something to eat.

Mr. William Doel, farmer, Tuppal, near Finley, sworn, and examined:—

Mr. W. Doel. 22 July, 1896. *To the Chairman:* I reside on Tuppal, about 18 miles from here.

To Mr. Black: I am a farmer, and I do a little grazing. My farm is north-north-west from Finley—right on the corner of Coree, Tuppal, and Hartwood. My market for wheat is Jerilderie, but this year I sold mostly in Deniliquin. I am nearer Deniliquin than Jerilderie, but Deniliquin is not generally a good market. This year, at the commencement of the season, it was a little better than Jerilderie. Farmers living near me do not send wheat to Deniliquin for shipment to Melbourne. The Deniliquin-Moama railway is a company's line, and the freight going that way is far more than it is going the other way. I cannot tell you what is the carriage of wheat on the Deniliquin-Moama Railway, for when I sold in Deniliquin I sold locally. Jerilderie is 32 or 33 miles from my place. A little while ago the cost of carriage to Jerilderie was 1s. 6d. a bag, but this year it cost me 1s. a bag. This was because the season was an exceptionally dry one, and there was good feed for the bullocks on the road, and a good track. If the proposed line were constructed from Berrigan to Finley, it would pay me to cart my wheat to Finley, and then send it by rail to Jerilderie. I could cart the wheat to Finley myself, leaving home in the morning, and being back again at night, and that would be a great saving. We have a waggon and horses, and we could utilise our own labour, whereas in sending wheat by road to Jerilderie we have to employ teams. Besides, the wheat would be more under our command. We would be with the wheat ourselves, and could sell it on the day we liked, whereas in sending it by road to Jerilderie we have to send it, and then go there at any time we can. Furthermore, in sending it by rail to Finley there would be less likelihood of damage in transit. Besides, this is a great district for fires, and we want to get the wheat out of danger as quickly as possible, and when we are sending it to Jerilderie there is a lot of wheat stacked in the paddocks when it ought to be at a railway station. I heard the evidence given by Mr. Crowe, and agree with what he said as to the capabilities of the soil in this district, and also as to the return at which it pays to grow wheat, chaff, and oats. I think that the soil in the direction of my holding is superior to that immediately around Finley. Some of my land is freehold, and some is conditional purchase. I bought it from the original selectors. I have altogether about 2,400 acres, of which 870 acres are under cultivation, while I graze the rest. I think that the majority of the farmers in this locality would make use of the proposed railway. I have never sent any wheat to the Melbourne market. I have sent only a few lambs and a few sheep there. If there were a railway from Finley to Jerilderie, thus affording me easy means of communication with the Sydney market, I think that I should try the Sydney market with my stock. I got sick of the Melbourne market last year. I was not quite so lucky as Mr. Crowe was in that respect. Last year I sent two truckloads of lambs—that would be about 240—to the Melbourne market.

To Mr. O'Connor: They fetched 2s. 4d. each.

To Mr. Black: The total amount I received paid for the trainage. I got £4 back for the two trucks. But I would not have taken less than 4s. each for the lambs on the ground.

To Mr. O'Connor: I have been in this district eight years, and I know it pretty well. If the proposed railway from Berrigan to Finley were constructed, I would gladly avail myself of it in sending away my produce. I think that every man in the district living by growing wheat and other produce on his farm would patronise the Finley railway. I am certain that the establishment of this railway would promote settlement.

To

Mr. W. Doel 22 July, 1896.

To the Chairman: I cannot tell the Committee exactly how much settlement in this district has increased during the last five years, but I can enlighten the Committee a good deal on that subject. I left Victoria about eight years ago and came here, and then it was a very rare thing to see anybody in this district with 100 acres under crop. There was a mill at Jerilderie, but it was a very rare thing to see a team going there. But since then I think that there has been more wheat carted to Jerilderie than to any railway station in Victoria. All this has been brought about since I came here eight years ago.

To Mr. O'Connor: And that would be much increased if the proposed railway from Berrigan to Finley were constructed.

To Mr. Black: I have nearly doubled my area under crop since the Sectional Committee on the Jerilderie-Berrigan railway took evidence here. It has been paying me to do so. When I first came here I purchased 1,280 acres, and since then I have purchased 470 acres and 570 acres. According to the report of that Sectional Committee, I held 2,400 acres, but since then I have purchased 470 odd acres. There are many people within a radius of 5 miles of my holding who would be benefited by the construction of the proposed railway to Finley. There is one neighbour who represents, perhaps, eight or ten ordinary farms. Mine is about the smallest farm, other farms are 3,000 and 5,000 acres, and those farmers with such a large quantity of land have re-let, and instead of there being only one farm you may say that there are twenty farms. Of actual proprietors there are not very many, but of farms there are a good few. There is plenty of land still available which is suitable for agricultural purposes. It is all suitable from here to my place—nearly 20 miles. I have been farming in the Goulburn Valley, Victoria, almost ever since I was a boy, and there is no country in that valley such as there is between here and my place. If this land were thrown open by the proprietor on favourable conditions, there could not help being a good deal of increase in settlement, for it is the finest district I have ever seen. The Goulburn Valley soil is red chocolate soil. I do not think there is much volcanic about it. The soil there is something similar to that in this district, but this is a little lighter, and more easily worked.

To the Chairman: No district could be more suitable for the carrying on of the dairying industry than this one is. The country in this quarter is really too rich for sheep. If we have a good season, we cannot stock it sufficiently. It goes too much to grass.

To Mr. Black: We have foot-rot here in places, but no fluke.

To the Chairman: When I came here eight years ago, there was no foot-rot here.

Mr. John Westerdale, farmer, Tuppal, near Finley, sworn, and examined:—

Mr. J. Westerdale. 22 July, 1896.

To the Chairman: I reside at Tuppal, and am a farmer. I lease 338 acres. I am satisfied with the conditions under which that land is leased to me. I have the right to purchase it at the end of the lease. I have 290 acres under cultivation. This year I am growing wheat principally, but also 6 acres of oats. I had barley in last year, but it did not pay me, on account of there being no demand in New South Wales for it. I have last year's barley now unsold. I send my wheat to Jerilderie. It costs me about 9s. a ton to send it to Jerilderie. My farm is 5 miles from Finley.

To Mr. Black: My farm is about 26 miles from Jerilderie.

To the Chairman: I should be greatly convenienced by the construction of the proposed railway from Berrigan to Finley. I should send my produce to this line. Last season my crop was close on four bags to the acre. I also had about 30 acres under hay. Under favourable conditions, so far as seasons are concerned, I should probably send over 1,000 bags of wheat by the railway from Finley. I should do it because it would mean a saving to me in carriage. Whether I shall or shall not purchase the holding I am at present leasing will depend on the seasons. My lease has two years yet to run. I took up the land intending to purchase it, and have made improvements with that end in view. My present intention is to purchase it. I now pay a rent of 5s. an acre. A man can farm successfully and pay that rent. I believe that he could also make it pay by purchasing the fee simple at £4 an acre, if railway facilities were afforded him. During the last three years I have noticed an increase of settlement in the district. I came from Victoria, because I found that I could do better in New South Wales. I found the capabilities of the soil here better, and that more favourable conditions were afforded me for taking up land. I find the Sydney market is better for me than the Victorian market was. I heard the evidence given by Mr. Crowe, and in the main I agree with what he stated in regard to the possibilities of development in the district, if the proposed railway be constructed.

Mr. William Kirkland, farmer, Finley, sworn, and examined:—

Mr. W. Kirkland. 22 July, 1896.

To the Chairman: I am a farmer, residing about 3 miles east of Finley. I have been a resident of the district about four and a half years. What induced me to come and settle in the district were the terms on which the land could be obtained, and the quality of the land. I have been engaged in farming operations all my life—before I came here, in Tasmania. I am now in occupation of close on 1,900 acres, of which about 1,100 acres are under cultivation.

To Mr. Black: I have not lately made any additions to my holding.

To the Chairman: I hold the land under a seven years' lease with the right of purchase. All my anticipations have been realised in regard to the capabilities of the soil, and so on. I have more confidence in the district now than when I first came here. Not the whole of the 1,900 acres are at my option to purchase at the end of the lease—about 100 acres of the land I rent from a neighbour. I cannot say that I have definitely the right to purchase that; I look to the 1,800 acres. I am satisfied with the conditions under which I have acquired the land, and I have every intention at present of purchasing at the end of my lease. I have gone on improving the estate with that object in view, just as if it were my own, in fact, I could not afford to do anything else but purchase. In my lease I have arranged that if I purchase I shall pay £4 an acre for the land, and I am satisfied that, even at that rate per acre, I can make farming pay. I feel the more assured in that opinion by the fact of there being a probability of a railway being constructed to this district, affording me further facilities for the carriage of my produce. It would lessen the cost of putting the produce on the market, and, therefore give me a larger margin of profit. At present Jerilderie is the only place I have to send grain to, and if a railway were constructed from Berrigan to Finley I should really save the whole cost of the cartage.

Even

Mr. W. Kirkland. 22 July, 1896.

Even if wheat did not realise the prices which it realised last season, which was a very good one, the saving in the cost of carriage would recoup me for the loss, provided it was not too great a haul. The surveyed line passes right along the end of my property. The original survey is on the opposite side of the road to me.

To Mr. Black: That is on the right-hand side coming from Berrigan to Finley.

To the Chairman: Mr. Breadon holds the lands on the opposite side. He is settled on his area under the same conditions as I am on mine. I am not aware that he raises any objection to the acquisition by the Government of the land required for the purposes of this railway. If it were proposed that a certain portion of my land should be taken for the purposes of the railway I should certainly offer no objection. I should be far more than recouped by the line being made. I consider that the first year would more than recoup me, supposing the land were my own in fee simple, and I gave it. At present we have to pay 1s. a bag, or about 9s. a ton, for the carriage of wheat to Jerilderie, and if the railway passed by my place I would do it almost with the same hands as I have in harvest. The expense of putting my wheat on the trucks would not amount to many pounds difference, whereas last year cartage alone cost me £160. The roads to Jerilderie are the usual bush roads, and very little rain, even in the summer time, stops all cartage. Last year and the year before there were several days when the teamsters did not hook up, and if there is a fall of rain it means the total stoppage of all cartage for a day or two. If, after the harvesting operations are over, a wet season sets in, an obstacle in the way of sending wheat and other produce to market is created by the fact of the roads being made impassable, thus causing delay. Of course, the roads, at that time of the year, do not remain so bad that you cannot transport produce at all; but their condition always causes delay. I have had conversations with nearly all of the people who are holders of areas of land under the same conditions as I am, in regard to the matter of giving the land required for the construction of this railway, and I think that none of them are opposed to the granting of the land. I also think that it is the intention of those people to purchase their holdings right out when the time comes. At the present time there are about eighty settlers within a 5-mile radius of Finley. There is no question that the construction of this railway would be an incentive to the further development of this district. Practically no produce is now sent from this district to the Melbourne market. A few settlers, just on the edge of the river, do send to Melbourne sometimes; but even last year people carted right from the river to Jerilderie. It is, of course, just a matter of the difference in the cost of carriage *via* Melbourne to Sydney. I wrote for information on that head last year before harvest, and the cheapest that I could get the carriage done for was 3s. a ton more *via* Melbourne, and thence by water to Sydney, than *via* Jerilderie to Sydney. Practically the cartage for me was the same to Yarroweyah as to Jerilderie; but for those situated on the river the cartage to Yarroweyah was less. The balance of my land which is not under crop I use for grazing purposes. I do not raise any stock, but I have been in the habit of buying grown sheep and fattening them. My land will carry one and a half or two store sheep to the acre all the year round. I never stock to that extent, for I generally stock with the intention of fattening. Sometimes I have shorn. If I were to shear sheep in future, in all probability I should send my wool to the Sydney market by this railway. I have never inquired as to the cartage of wool to Jerilderie, because in certain seasons of the year you cannot get teams to take wool to Jerilderie. The capabilities of this district for dairy-farming are very good. I had nearly a life's experience in dairy-farming before I came here, and I think that during the winter and spring months, at any rate, the capabilities of this district for dairy-farming are excellent; but there is no outlet for that industry now, owing to the want of cheap carriage—that is to say, in the matter of butter—such as the people have in Victoria. We have practically better land for dairying than that in the Goulburn Valley.

To Mr. O'Connor: I heard the evidence given by Mr. Crowe, and, generally, I agree with his evidence as to the value and possibilities of the land here. Whilst proceeding with my farming operations here, I have been so satisfied with the quality of the land that I determined that I would purchase it. If the land had not been so good I should some time ago have determined to refrain from the responsibility which I have incurred since with a view of purchasing the land.

To Mr. Black: I have expended so much capital and labour in improving the land that I consider I should be a considerable loser by not purchasing it. All the money that I have made out of it I have spent on it, looking forward to the purchasing of it. I could have withheld that money and kept it in my pocket. I have spent money on other improvements besides actually necessary ones.

To the Chairman: My average yield of wheat has been about 18 bushels per acre. Last year I obtained 4½ bags, the year before I had only 3½ bags, but the year before that I had 5 bags to the acre. If the seasons continue to be good, as last season was, I should probably send over 5,000 bags of wheat by this railway, and I am looking forward to putting more land under cultivation. I am clearing land now for more cultivation next year. It is probable that if the proposed railway be constructed, I shall, at some future date, put the greater portion of my land under cultivation. I might never put the whole area under cultivation. It would not be business-like to do so, because you want to look forward to the future, and there are other things to which I should look forward. At the present time we are so situated that wheat is really the only thing we can produce; whereas, if we had more railway facilities, we could produce oats, hay, and straw. This year I had a considerable quantity of straw on hand, and the market was good in Sydney, therefore I wrote for information as to the cost of railway carriage, and I also wrote to agents for full information as to the market; and if it had not been for the road-carriage to Jerilderie I should have sent some straw to the Sydney market; but I did not do so because I found that straw, being bulky, it would have cost me from 15s. to 18s. a ton, to get it to Jerilderie, and that expense would have swallowed up all my profit. If the proposed railway were constructed, I should send not only wheat, but probably also hay, straw, and oats by it. When I said just now that it would be unwise to place the whole area under cultivation at one time, I meant that I was guided by the fact that the land requires a rest at some period or other. No land, be it ever so rich, can go under cultivation for ever. Another thing is, that the land is likely to become somewhat foul after a few years' cropping, however careful you may be, and therefore wants either fallowing or resting. I have not yet considered what I should put in as a crop on what I may term exhausted land, but it would probably be lucerne. Lucerne grows excellently in this district. I have not seen it put in in a workmanlike manner in this district, and yet it is astonishing the amount of feed which it produces. I have had no experience in growing lucerne for hay. Nearly all the people who sow lucerne in this district grow it just for grazing purposes.

THURSDAY,

THURSDAY, 23 *JULY*, 1896.

[*The Sectional Committee met at "Burbury's Hotel," Finley, at* 10 *a.m.*]

Present:—

FRANK FARNELL, Esq. (Chairman).

The Hon. Daniel O'Connor. | George Black, Esq.

The Sectional Committee further considered the proposed Railway from Berrigan to Finley.

Mr. William Kirkland, farmer, Finley, sworn, and further examined:—

Mr. W. Kirkland. 23 July, 1896.

To the Chairman: Yesterday I gave the Committee some statistics from memory as to the increased settlement in the district which had taken place during the last few years; but I can now state more accurately the numbers constituting the increase. About the middle of last April statistics were taken throughout the district that was to be served by this proposed railway, to be put before the Minister for Public Works, and this is the gist of them: Yesterday I told you that I thought there were about eighty settlers. On counting them, I find the number of holdings is 102, and the area of those holdings, 75,000 acres. The land under cultivation in 1895 was 26,211 acres. The land under cultivation in 1896 is 36,336 acres. The wheat grown in 1895 amounted to 82,239 bags, whilst the sheep on the same holdings numbered 49,594. Of cattle there is only a small number—a few kept for domestic use—and it is not taken into account. Similar statistics were taken about five years ago, in respect of the same area, when there was an agitation for the construction of the Rock line. The document embodying those statistics has been mislaid, but speaking from memory, I should say that in the same area the quantity of land under cultivation then was 5,600 acres. I may state that these statistics were taken in respect of an area (with the exception of four holders) within 10 miles of Finley on the west, and (with the exception of some half a dozen holders to the south-east) within 8 miles of Finley on the east. In the event of the proposed railway not coming to Finley—that is to say that if either the Committee or Parliament decided to leave the terminus at Berrigan—fully 60 per cent. of the wheat grown on this area would still be carted to Jerilderie, whilst the remaining 40 per cent. would go to Berrigan. I think that I am well within the mark in saying that 60 per cent. of it would still be carted to Jerilderie; therefore the Berrigan railway would not benefit more than to the extent of 40 per cent. of that quantity.

To Mr. Black: As to the wool grown in the district, those 50,000 sheep represent, I suppose, an average of about one bale to the 100, or altogether about 500 bales. To a large extent the area in respect of which those statistics were taken is purely an agricultural country. Hitherto, I suppose the whole of the wool has been sent to Melbourne, and I must say that sheep-owners are conservative and hard to move; but I think that the matter of their pocket will decide which way they will send their wool in future. No doubt some of them would be influenced to some extent by how they stood with the Melbourne agents; but most of those landholders are not large sheep-owners, and are not likely to be involved largely with the Melbourne agents. In the event of a railway being constructed from Berrigan to Finley, I think that, in all probability, wool would be sent to Sydney. If the proposed railway were not constructed I think the wool would continue to go to Melbourne. Not being a wool-grower, I cannot speak personally.

Mr. John Blair, farmer, near Finley, sworn, and examined:—

Mr. J. Blair. 23 July, 1896.

To the Chairman: I am a farmer residing 6 miles east of Finley—nearly midway between Finley and Berrigan.

To Mr. Black: The land I lease is on the proposed railway route. The line would run about 2½ miles along the edge of that land. I have no voice in the matter of land being given to the Government, free of compensation, for this railway, but I should be only too pleased to see it done. My land is partly on the Tuppal Station, and the remainder of it is adjacent to the Tuppal land, under a different owner. If Mr. Faulkner were prepared to give the land, subject to my approval, I would most decidedly approve. I do not know the opinion of the other owner, Mr. Simmons, as to giving land; he is not living in the district. I have not heard that Mr. William Blair has a letter from Mr. Simmons in which he declines to give his land. If the proposed railway were constructed, I think it would be patronised very much by the selectors here. I think they would use it in dry weather as well as wet. I send my produce to Jerilderie. If the proposed railway were constructed, I think that I should have still further inducement to send my produce in that direction. I occupy 4,500 acres. Of that area I have let 970 acres for agriculture, and the remainder I hold myself. The bulk of the let-off area is under agriculture, and I personally cultivate 2,800 acres.

To the Chairman: The average yield of wheat from my cultivation during the last seven years has been from 3¾ to 4 bags an acre. The area is kept down a good deal by bringing in so much new land, which is often brought under cultivation rather late in the season, and that reduces the average yield. Last year I had, on 2,300 acres, an average of nearly 4 bags an acre. The prices have been such that a person could farm successfully, with the exception of one year when the price got below 2s., which was too low for any profit. I have always sent my wheat to Jerilderie. The road to Jerilderie has always been of such a character as would allow of safe transit, with the exception of a few days, when heavy rain came and the teams had to stay. But they resumed work afterwards, when the road got firm again; it was never impassable for any length of time. Last year I paid 10d. a bag, or about 7s. 6d. a ton for the carriage of wheat from my place to Jerilderie. I am 20 miles from the Jerilderie railway station. If the proposed railway from Berrigan to Finley be constructed, I shall certainly avail myself of the facilities that will be afforded for the carriage of all my produce. Every bag of it, so far as I know at present, will go by this railway. I could handle it with my own teams and save all the expense I am put to now in carting. I could save over £200 a year on wheat alone. This year my crop was about 11,200 bags, and I am looking forward to 11,200 next season. That shows a great increase in the produce of the area put under cultivation. Since I have been here the increase of settlement in the district has been very great indeed. I have been in a good position to notice it. I was the "bell-wether" of the Tasmanians, I may say. After I came away from Tasmania the others followed me, two years later.

There

Mr. J. Blair. 23 July, 1896.

There was very little cultivation here then. Neighbours of mine, who are farming largely now, had only 30 or 50 acres under cultivation then, and that was considered a great deal. They were satisfied with sheep-farming; but, when we started opening out a bit, they did the same, and the result is that the country is as you see it now. I was fortunate enough to get the agency from Mr. Faulkner, for the purpose of letting his land, and I was the means of influencing most of the other Tasmanians who are now here to come and settle in this district. All those people who have settled in this district since I came here have carried on the farming industry successfully. They are perfectly satisfied with the terms and conditions under which they hold their areas, on the leasing system, with option of purchase. I think it likely that when their leases are about to expire they will avail themselves of the provision which is incorporated in them for the purchase of the land. I could not name an exception. I think they are showing a *bona fide* intention in that direction by making improvements of a substantial character on the holdings. I do not think it is likely they would expend their money and labour in making improvements, and then allow the holdings to revert to the present proprietor. If the proposed railway be constructed, I shall avail myself of it for the purpose of getting supplies from Sydney and intermediate towns. I now get the biggest proportion of my things from Sydney, and I have to get them by coach from Jerilderie, or go to Jerilderie for them; therefore, the railway will be of material assistance to me in that respect. During a portion of the year the country about here is very good for dairying purposes. In the summer time it is rather difficult to make butter, on account of the heat; but we have plenty of grass, and cattle do well, and give immense quantities of milk and butter. People are talking of establishing a creamery at Tocumwal; there have been several meetings held, but they have never brought the matter to a head yet. We, in Tasmania, always carried on dairying, and when we came here there was hardly a cow. You could not get any butter. The first thing I did was to buy a few cows, as we could not do without them for the family, and they have been a great success. The soil here is capable of growing different kinds of fodder, but up to the present we have not tested it, except for lucerne. We have had so much natural grass that other fodder was not required. I have sown turnips, and mangolds, and one Tasmanian at Momolong, on land similar to this, has grown immense mangolds—they stood 18 inches out of the ground—and also turnips. If the proposed railway were constructed, and if under the conditions on which people have holdings at present further areas were thrown open, I think there would be a demand for the land and that it would be taken up. For every block that is to be let in this vicinity, there is a rush. People come from Victoria, and the only trouble is that there is not enough land put up at a time, and so many people are so often disappointed, as only perhaps four or five persons out of 500 or 600 applicants can get land. I have with me now some young men from Tasmania who are waiting for an opportunity to take up land. They have been in for several lots at Corowa and other places where it was thrown open but have not been successful yet and are still anxious to get land. I think that there is a *bona fide* intention on the part of the settlers in the Finley district to realise the anticipated results in regard to this railway if it be constructed. I am sure that the construction of this railway would lead to further development and a larger settlement taking place, and, naturally, as a consequence, a greater area would be put under cultivation. The mode of transit now is a handicap; but, bad as that is, people go for every available acre of land which is thrown open at the present time, and there would be a still greater inducement with the railway. I have considered the amount that it is likely would be claimed as compensation by those unwilling to give their land free in connection with the construction of this line. I do not see how anyone without severance could ask any more than £4, or perhaps £5 at the outside, per acre. There would be no necessity for the Government to go into an expense of thousands of pounds, as far as compensation is concerned. I think that the total amount of compensation would not be more than some hundreds of pounds. Several persons would give their land free. We calculated it at one time, and found that the quantity of land that might have to be paid for between Berrigan and my place came to 30 acres, and we always looked at the land from here to my place as being given free. I have heard that Mr. Faulkner would be likely to give the necessary land, if the tenants were willing. As regards making an alteration in the proposed route, so as to save payment of compensation, there is only one place where I can see a little alteration could be made, and that is just out of Berrigan. The surveyed line crosses the road in Phipps' land, where it severs two paddocks, whereas if it were continued to the end of the road and then came on to the other point of his paddock, it would cross only one paddock. I do not think there is any other corner that could be improved upon. There would be no material advantage gained by that, excepting preventing the severance of two blocks, instead of only one. That land is all held in one name.

To Mr. O'Connor: The greatest block against settlement is owing to sufficient land not being thrown open. So strikingly plain is that fact, that hundreds of people return to Victoria and elsewhere, grievously disappointed. I am alluding to land that could be thrown open by the Government.

To the Chairman: In reference to the statistics which Mr. Kirkland gave just now, and his saying that 60 per cent of the wheat grown on the area he mentioned would be available for the line from Berrigan to Finley, and that in the event of this line not being constructed, 40 per cent. would go to Berrigan, I think he is a long way from the mark. I think that my wheat is included in that to go to Berrigan; and I may state that I have ascertained from the carters who took my wheat last year the prices for carting this year; and it is my intention this year, and perhaps in future years, if there is no railway from Berrigan to Finley, to use the Jerilderie-Berrigan line for only a portion of my wheat—what I can cart with my own teams;—but the bulk of it would have to be carted by carriers, and I should send that to Jerilderie. I am in rather a peculiar position. I am claimed sometimes for Finley and sometimes for Berrigan, as regards railway carriage, and I just wished to make the statement that the biggest portion of my wheat, this year, will go by the carriers to Jerilderie, and what I can cart with my own teams to Berrigan I shall take there. I could not cart it all because there is so much of it.

Mr. Charles McAllister, farmer, near Finley, sworn, and examined:—

Mr. C. McAllister. 23 July, 1896.

To the Chairman: I reside 9 miles west of Finley. It is eighteen years ago since I first took up land here. I am a farmer, and I hold 6,400 acres. I acquired the land principally by purchase, some by selection. I have 3,500 acres under cultivation. Five hundred acres of that area I have myself, and 3,000 acres I have rented on the halves system—a system by which we mutually agree to work the farm to the advantage of each party. I graze the balance of my land—2,900 acres. The stock-carrying capacity of the country is about one and-a-half sheep to the acre. I shear my sheep,

Mr. C. McAllister. 23 July, 1896.

sheep, and send the wool to Melbourne. The only reason why I have sent the wool to Melbourne is because in the past I have been handicapped so far as regards facilities being afforded me to send it to Sydney. I have obtained as much as 75 bales of wool from my sheep, but I would not get as much now, since I have let the land. At present I would have 50 bales. If the proposed railway were constructed, I should send my wool to Sydney instead of to Melbourne, if I found I could send it to Sydney as cheaply. I have been in the habit of sending my wheat to Jerilderie. In sending it to Jerilderie I have been handicaped very often because of the bad roads, and the difficulty in the early days in getting teams. I have suffered absolute loss through not being able to get teams owing to the bad roads and a plague of mice coming and doing great damage to the wheat. My yield of wheat has been up to the average in the district. If the proposed railway be constructed I shall probably send about 2,000 bags of wheat by it, and I shall send that wheat *viâ* Finley to Berrigan if the railway be constructed to Finley. I am surrounded by many other settlers—principally the settlers on my own ground, immediately around me, but there are also other settlers at distances from me varying from 7 to 9 miles. They would all be benefited by the construction of the railway to Finley, because it would afford them further facilities to get their stuff to market. All of them will be only too glad to avail themselves of the opportunity of patronising this railway if it is afforded them. They appear to be perfectly satisfied with the conditions under which they continue on their holdings. I cannot say that during the last five years I have noticed an increased demand for land in this district for settlement purposes, as regards purchasing the land, but there has been a greater demand for leasing the land. I think that the reason why there is not a greater demand for the purchase of land is because the people have not got the ready cash with which to buy it. They prefer to lease the land, with the right of purchase, and have it on reasonable terms till such time as they are in a position to purchase. They do not grumble at the amount they have to pay per annum as rental. I am sure that the dairying industry could be carried on with success in this district. I know that the part of Victoria I came from is not at all as suitable for dairying as this district is, and yet there the industry carried on is pretty well all dairying. My place is 25 miles from Jerilderie. I know of some Crown lands which could be made available for settlement in the district; there is the travelling stock route from Tocumwal to Jerilderie which could be made available, and there are also a large area of Crown lands on Tuppal holding. I am not in a position to say what those lands are; but I think that at the time Tuppal holding was sold there were 29,000 acres of Crown land on it. I do not know whether that quantity includes roads or not. I think it is unnecessary to have so much land for the travelling stock route now, and if we were to get the proposed railway to Finley such an extensive travelling stock route would be still less necessary. There is not the slightest doubt that if the travelling stock route were made available for settlement it would be taken up immediately by settlers. The Crown lands on Tuppal Holding are scattered through the run, in different parts. Tuppal lies principally between here and Deniliquin. A great number of the people who would take up those lands if they were made available for settlement would patronise this railway. People living within 7 or 8 miles of Deniliquin now cart wheat to Jerilderie. There is no extensive market for wheat in Deniliquin, and they get a better price for it at Jerilderie, and all the wheat grown within 7 or 8 miles of Deniliquin goes to Jerilderie. The fact of the cost of carriage being so high on the Deniliquin-Moama railway has not so much to do with those people sending their wheat to Jerilderie, as the price they obtain for their wheat at Jerilderie. With the duty across the border, it would not pay them to send their wheat that way, in any case. I am satisfied that if the proposed railway from Berrigan to Finley were constructed, it would bring about increased settlement, and lead to an increased area being put under cultivation in this district.

To Mr. Black: I have increased my holding by 1,880 acres since I gave evidence before the Sectional Committee in January, 1895. I have acquired the additional land by purchase. I am very well satisfied with my prospects since I came to the district.

To the Chairman: And the same prospects are open to everyone else.

To Mr. Black: In the future I may, perhaps, make still further additions to my property. I think that very little of the wheat grown in the district goes to Tocumwal—only the wheat that is grown immediately about Tocumwal. I believe that Mr. Jeffries, of Tocumwal, buys wheat, but I do not know how he disposes of it. However, that wheat does not come from the district immediately surrounding Finley. It is more from the district around Tocumwal. I know that a great deal of the wheat grown halfway between here and Tocumwal goes to Jerilderie. If the proposed railway from Berrigan to Finley were constructed, I do think that wheat would be brought to Finley from as far south as Tocumwal. I think that the Finley line would largely tap the Tocumwal trade. Tocumwal is 15 miles from Finley, and I think that the Finley railway would tap that district as far as Tocumwal. I am not prepared to say whether it would tap it any further south. Finley is about 25 miles from Jerilderie. If the proposed railway from Berrigan to Finley were constructed, I should hardly think that the farmers 10 miles from Finley in the direction of Jerilderie would send their wheat to Finley, but those living 7 or 8 miles in that direction, if they were carting their own teams, might bring their wheat to Finley, as they would be able to come in and go back in the day. But if they had to pay carriers they would send their wheat to Jerilderie. I think that farmers distant 16 miles from Jerilderie, and therefore 9 miles from Finley would, in order to save 34 miles of trainage, prefer to cart their produce two-thirds of the total distance between Finley and Jerilderie, and take it to Jerilderie, rather than one-third and bring it to Finley. My opinion is that it would be only those farmers to the northward who were within 8 or 9 miles of Finley who would prefer to utilise the Finley railway station. Taking the route between Berrigan and Finley, the same remark will hold good. It would be only those nearer Finley than Berrigan who would use the Finley railway station. Those midway between Finley and Berrigan, I suppose, would take their wheat to Berrigan. I think that those within two-thirds of the distance from Berrigan to Finley would prefer to go to Berrigan, whilst those within one-third of the distance from Finley to Berrigan would prefer to go to Finley. On the western side of Finley, towards Deniliquin, the district would be tapped for 20 or 25 miles by the proposed railway. The total distance between Finley and Deniliquin is 40 miles, and I think that this railway would tap that district within 10 miles of Deniliquin, because the people there now come this way with their wheat. People living within 10 miles of Deniliquin go to Jerilderie, and they would affect a saving of about 10 miles if the proposed line to Finley were constructed. Finley is much nearer to them than Jerilderie.

Mr. Casimir Rowe, Manager, Springfield Station, near Finley, sworn, and examined:—

Mr. C. Rowe. 23 July, 1896.

To the Chairman: I am the manager of Springfield Station.

To Mr. O'Connor: I have been in this district two years last May. I have been the owner of sheep stations, and have been farming generally in Victoria. My knowledge is pretty extensive. I have been about ten years in New South Wales—in various parts of it—but principally on the other side of the Murrumbidgee, in the Merool district. I was many years in Victoria. My experience is extensive in regard to land and how it should be used, whether for pastoral or agricultural purposes. In my large experience I have not seen land much more suitable for cultivation than the land in this district, except, perhaps, the Warnambool country. I should favourably compare the land in this district with some of the most favoured portions of Victoria for agricultural purposes. I am sure that if facilities were offered here for settlement we should have a large population here in time. I heard Mr. John Blair give evidence this morning. I heard him say that people come here in very large numbers to acquire land and go away sadly disappointed at not being able to acquire it. That is true. I have experienced that myself. I think that there would be a sufficient number of people here in course of time to well support a railway between Finley and Berrigan, and that, instead of inflicting a loss on the Government, it would in a very short time be a paying line.

To the Chairman: The area of the Springfield estate is about 5,300 acres, of which 1,100 acres are under cultivation. There has been a great increase of settlement in this district during the two years I have been a resident here—it has increased every year. I think that that is likely to be much augmented if railway facilities are afforded settlers in this district, and provided that a larger area is thrown open for lease under one form or another. I think that the present travelling stock route is a great deal too large, and that half of it, at all events, would be sufficient. This is a good dairying country. It is rich in natural herbage, and a little addition of lucerne would make a certainty of it—lucerne growing in the summer months when you have not the natural grasses. I think that the whole of this district has a great future before it, if proper facilities are given the settlers to get their produce to market. I have heard the evidence given by most of the settlers who have given evidence here to-day. I think that they have pretty well stated the case. Their statements have been very correct indeed.

To Mr. Black: I have been taking the rain records here for Mr. Russell, the Government Astronomer, during the time I have been in the district, and I have also the previous records. The average rainfall of the district is 20 inches. I think that the rainfall last year was only 15 inches, or perhaps nearly 16 inches; but, in spite of that, we had very fine crops.

Mr. William Burns, selector, near Finley, sworn, and examined:—

Mr. W. Burns. 23 July, 1896.

To the Chairman: I am a selector residing about 6 miles out of Finley, between here and Berrigan.

To Mr. Black: The surveyed line for the proposed railway from Berrigan to Finley is on the other side of the road opposite my land, which is on the southern side of the road. If it were decided to take the proposed railway along my side of the road and to resume, say, a chain of my land, adjacent to the road, I would be willing to exchange that land for some Crown land which, I think, there is adjoining. I should be willing to give a narrow strip of land bordering the road if the Government in exchange would give me a strip of Crown land of corresponding width. There would be no difficulty about that. I have, as near as I can guess, a frontage of 105 chains to the main road. My block is only 69 chains wide, and I had to get it in length to make up 640 acres. My total area is 1,849¾ acres. I control the whole of that myself. One thousand acres of it is under cultivation now. I have increased the area under cultivation this season. I put 320 acres of new land in this season. So far the taking of the duty off wheat has not daunted me. Last year I got as much as seven and eight bags of wheat per acre. My wheat-yield last year averaged four and three-quarter bags all through. Eight bags make 32 bushels. In my worst year, my average has been about two and a half bags per acre. We invariably send our wheat to Sydney, *via* Jerilderie. When the railway from Jerilderie to Berrigan is completed I shall send my wheat to Berrigan, because it will be the nearest station, and if the railway were constructed to Finley I should send it to the Finley station, which is nearer still. I am only 6 miles from Finley. I should do my own carting.

To the Chairman: Taking the average for the time I have been here to be about five bags to the acre, I ought with 1,000 acres under crop this season to reap a harvest of something like 5,000 bags, if we get a good spring, and the railways would be charged with the conveyance of that, if not to Sydney, at all events to intermediate stations, *via* the Berrigan-Finley line. There has been a great increase in the area of land put under cultivation in this district during the last five years. There has been a great demand for land in the district. A lot of people come here and are unable to get land, and go away again. I know the travelling stock route between Tocumwal and Jerilderie—I do not think it is all required for that purpose. If it were thrown open in available areas for settlement it would soon be taken up—all that was offered. The settlers seem to be satisfied with the conditions under which they occupy their holdings, and I think they are farming successfully. It is seventeen years since I came here, and the country was very wild then. I had about 100 acres under cultivation five years ago. I thought that was a big area then. I think that it was the settlement in the district of practical farmers from Tasmania and Victoria which acted as an incentive to me to put a larger area under cultivation. I graze sheep, cattle, and horses, but I have not sent any to market lately. If I did graze them for selling purposes, I should send them to market by rail.

Mr. Alexander MacIntosh, farmer and grazier, Finley, sworn, and examined:—

Mr. A. MacIntosh. 23 July, 1896.

To the Chairman: I am a farmer and grazier, residing about 4 miles south-east from Finley. The area of my holding is 2,600 acres. I have been in this district going on for eight years. I purchased the 2,600 acres of land from the holder of it at that time. It had been selections. I have 700 acres under cultivation, and I use 1,900 acres for grazing purposes. The first year I was here I had 20 acres under crop, 40 the next, and so on. The average yield of wheat from the 700 acres is about four bags to the acre, or about 2,800 bags altogether. I send my wheat to Jerilderie, a distance of 27 miles. I have not sent any stock to market latterly. The tax put a stop to my sending stock to the Victorian market. I have never tried the Sydney market with stock. If I did go in for fattening stock for market, I should give

Mr. A. MacIntosh. 23 July, 1896.

give the Sydney market a trial, and, in sending the stock to market, I should avail myself of the facilities that would be afforded by the proposed railway from Berrigan to Finley, if it were constructed. If my anticipations are realised, and I get 2,800 bags of wheat off my holding, I shall send it by the proposed railway. There has been a great increase of settlement in this district during the last five years, and a greater area has been put under cultivation. There has also been a great demand for land in the district, and I think that areas would be quickly sought after if some were made available. I know the travelling stock route from Tocumwal to Jerilderie. It is hard to say whether it is absolutely necessary that that stock route should be retained. I think that half of it ought to be retained at any rate, and that the other half could be put to better use by being thrown open in suitable areas for settlement. I think that with an average yield of four bags to the acre a man could profitably carry on agricultural pursuits here and live comfortably, together with his wife and family, if he had about 300 acres. If a portion of the travelling stock reserve were cut up into areas of 320 acres each, that would be the means of encouraging *bonâ fide* settlement, and the settlers could successfully carry on operations; more particularly would that be the case if you gave them a cheaper means for the carriage of their produce to market. I have heard the evidence given by the other witnesses to-day, and in the main I agree with it. I consider that this district has such capabilities as to warrant anyone in thinking that it has a great future before it.

Mr. Alexander Lang, farmer and grazier, near Finley, sworn, and examined:—

Mr. A. Lang. 23 July, 1896.

To the Chairman: I am a farmer and grazier, residing 10 miles south-west from Finley. The area of my holding is about 7,500 acres, of which about 750 acres are under cultivation, whilst the balance is used for grazing purposes. On 6,750 acres I run a little over 12,000 sheep. The average wheat yield from the 750 acres during the last three years, taking one year with another, has been about four and a half bags per acre. Therefore, in all probability, if the season is as it has been in the past, I shall have about 3,500 bags of wheat from the land under cultivation. In the past I have sent my wheat to Jerilderie, a distance of about 35 miles. Last year I sent 1,000 fat wethers to the Sydney market. If the proposed railway from Berrigan to Finley were constructed, I would give the railway Department the benefit to be derived from conveying the 3,500 bags of wheat, and probably sheep as well. Last year my clip of wool amounted to 180 bales, and I hope to have more this year. Melbourne has been my market for wool. One reason why I sent it to Melbourne was because of the cost of carriage. If facilities were afforded for the conveyance of wool to Sydney at as cheap a rate as I can send it to Melbourne, in all probability the New South Wales railways would obtain the benefit of the carriage of my wool. I have never tried the Sydney market with wool, and it is quite likely that the Sydney market might prove to be a more remunerative market for me than the Melbourne market. There has been a great demand for land in this district during the last few years, particularly for leasing purposes. I think that the demand for land for leasing purposes is simply on account of the individuals not having sufficient capital at command to purchase the land right out. They are mostly small farmers, and they have not sufficient capital to buy a quantity of land. I think they are satisfied with the conditions under which they have their holdings. They appear to be a thrifty, practical lot of men. I have heard the evidence given by the several witnesses here to-day, and in the main I agree with what has been stated by them. I think that the statements they have made can be borne out in almost every instance. If the proposed line from Berrigan to Finley be constructed, it will bring about further development in the district, and I am almost sure that it will ultimately become a paying line. I think that every legitimate effort will be made on the part of the settlers in the district to make the railway a paying concern.

To Mr. Black: When I said just now that I sent 180 bales of wool to market last year, I meant that that was my total clip at this place. I shear all my sheep. Last year I shore about 10,500. I heard the evidence given by Mr. Kirkland, as to the number of bales of wool that could be obtained from 100 sheep. According to our clip the quantity averages about one-and-a-half to two bales per 100, in the case of grown sheep. Lambs do not average so much.

To Mr. O'Connor: The average weight of a bale of wool is 3¼ cwt.

To the Chairman: I do not dump my wool.

To Mr. Black: My property is situated in a south-westerly direction from Finley. I know the Tocumwal district. In the event of the proposed railway from Berrigan to Finley being constructed, I think that almost the whole of the produce of the Tocumwal district would come to Finley—from almost right into Tocumwal. I do not think it would go south from Tocumwal. It has not done so this last season.

To Mr. O'Connor: The value of wool, roughly, averages about 8d. on the station.

To the Chairman: That price pays very well. I may mention that it is my intention, if the proposed railway be constructed, to let most of my land for the coming season. It is probable that I shall let about 6,000 acres, and if that area were put under cultivation, it would, at four bags to the acre, yield about 24,000 bags extra. Besides, it would be the means of settling a number of farmers on the land. That amount would be a considerable item.

Mr. Charles Uphill, farmer, Pine Hills, near Finley, sworn, and examined:—

Mr. C. Uphill. 23 July, 1896.

To the Chairman: I reside at Pine Hills, about 18 miles west by north from Finley. The area of my holding is 4,600 acres. It was acquired by conditional purchase in the first place—not solely by myself, I have bought out some holders. I have been in this district nearly twenty-one years. I have nearly 900 acres under cultivation, and the balance, about 3,700 acres, is used for grazing purposes. I run from 5,000 to 5,500 sheep. My average yield of wheat is about four bags per acre. Of course, I get various quantities. Owing to the seasons and a diversity of circumstances, you perhaps cannot get it all in at the same time, and some of it is late, and sometimes when you are sowing there are changes in the weather which help to make the wheat start in a less robust condition. Various things will account for the difference. About 36,000 bags of wheat would come off the 900 acres in a good season. The prospects at present are good enough for it. I have sent my wheat to Jerilderie ever since the railway was opened to that town. Of course, I grew wheat long before that. I send my wool to Melbourne. The rate for the carriage of wool is somewhat of a bar to my sending it to Sydney. But I never seem to have come in touch with Sydney as regards the wool market. Having once started in Melbourne I have never had special inducements to go to Sydney, and I have never tested the Sydney market at all with wool.

Mr. C. Uphill. 23 July, 1896.

If the proposed railway from Berrigan to Finley were constructed, and the rate of carriage could be shown to be cheaper for the conveyance of wool to the Sydney market than to the Melbourne market, I should be disposed to try the Sydney market. I expect to have about 100 bales of wool this year. I shore that quantity last year. If it could be shown to me that I could send my wheat more cheaply by the proposed railway than by means of road carriage to Jerilderie I should patronise this line. My farm is 30 miles from Jerilderie. During the last few years the conveyance of my wheat to Jerilderie has cost me about 1s. a bag, or about 9s. a ton on the average, but in some previous seasons it has cost me 50 per cent. more than that. I heard the evidence given by the several witnesses here to-day, and in the main I agree with what has been stated by the settlers as to the capabilities of the district, and the increased demand for land, and the future that there is before the district; and also, the boon which the proposed railway would prove to the district, if it were constructed, and the extent to which it would be availed of by the settlers. I think that there is a fair prospect of the railway paying in the near future.

To Mr. Black: Since I gave evidence before the Sectional Committee in January, 1895, I have about doubled my area under cultivation. I think you may fairly say that during the last eighteen months the areas under cultivation in this district have been, as a rule, about doubled; in some cases there has been even a greater increase. It costs me from 9s. to 13s. 6d. a ton to send my wheat to Jerilderie, therefore if I could get my wheat to Jerilderie by railway, from Finley, for about 3s. 6d. or 4s a ton, with the cost of carriage to Finley added, I think I should save a little money. I have not calculated; but it appears to be so on the face of it; I might possibly save from 1d. to 1½ a bushel. I think that a railway to Finley would serve a great many more people than we anticipate. We hardly know what the future developments may be; but in the meantime, the construction of the proposed line would bring railway communication nearly 20 miles nearer to Deniliquin, where there is a considerable population. The Finley railway would tap the country all the way from Finley to Deniliquin, as regards passenger traffic. The Deniliquin people would come to Finley in order to take the train, whilst people living 10 miles this side of Deniliquin would also send their produce to Finley. Thirty miles of the area between Finley and Deniliquin would be tapped for traffic by a railway from Finley to Berrigan.

To Mr. O'Connor: I send my wool to Melbourne because no effort has ever been made on the part of people in Sydney to become acquainted with me, and induce me to send it to Sydney, and having once established a business connection with Melbourne I have continued it ever since. I was not aware that in the city of Sydney there are at the present time buyers from Germany, France, and America, purchasing wool to any extent every day for cash.

To Mr. Black: I think that people as far as Deniliquin would prefer to come this way, rather than to take coach to the railway at Hay.

Mr. George Robinson Jeffries, store manager, Tocumwal, sworn, and examined:—

Mr. G. R. Jeffries. 23 July, 1896.

To the Chairman: I reside at Tocumwal and am engaged as manager in connection with storekeeping, farming, and squatting. I have been at Tocumwal about twenty-five years, and have had an opportunity of seeing the district progress. I have noticed most decidedly an increase of settlement in this district during the last five years. I obtain my supplies chiefly from Melbourne, but some from Sydney. I have acted as produce agent for different people during the last four years. On two occasions the produce went round to Sydney, *via* Melbourne. I was then purchasing for Gillespie and Company. On the other two occasions—in the past season and the season previous to that—I acted as agent for Stratton and Company, of Moama. They bought the wheat and stored it in a store which we have on the bank of the river, and took it away when the river rose. We hold a station and a farm of a somewhat large extent, but the area which we had under crop this year was about 1,200 acres, a portion of it put in by ourselves and a portion on the share system. I think we have about 26,000 acres of conditional purchase and freehold, and probably about 30,000 acres altogether, out of which there are about 1,200 acres under cultivation. We shall shear about 40,000 sheep this year. Our clip of wool has always gone to Melbourne. We have never tried the Sydney market. Hitherto the carriage of wool from Tocumwal to the nearest railway station of the New South Wales railway system has always been a bar to our sending our wool to the Sydney market. As to whether I think it is possible or probable that, if the proposed line from Berrigan to Finley were constructed, it would be availed of by myself and others for the purpose of sending wool to the Sydney market instead of the Melbourne market, I may say that the matter would resolve itself entirely into a question of cost. I do not think there is any sympathy attached to it, either one way or the other. It is purely a question of saving 1d. one way or the other. It is quite possible that if the proposed railway were constructed I might test the Sydney wool market. I am certain that we could get the carriage of wool from our shed to Finley done as cheaply as to the nearest railway station in Victoria, and after that it would be just a matter of railway rates. Our clip of wool would probably be about 500 bales. We had over 500 last year. For the conveyance of wool from our shed to Yarroweyah railway station last year I paid 8s. a ton, and I expect to have to pay the same this year, and I think that the charge is 6s. 4d. a bale from Yarroweyah to Spencer-street railway station, Melbourne. About five and a half bales of greasy wool go to the ton, and of course more of scoured wool. We do not dump our wool at all; we just press it. The greasy wool goes about 3½ cwt., or something like that. I think that we could get our wool conveyed from our shed to Finley for about the same price as we pay for its conveyance to Yarroweyah, because the road to Finley is better. During the wool season, when you want to use the road to Yarroweyah, it is not by any means a good road. I know most of the settlers about Tocumwal. The year before last I bought about 6,000 bags of wheat from them for Stratton & Company, but this year I did not get more than 3,000, including our own. I think that the greater part of the wheat grown in and around Tocumwal last year went to Jerilderie. A little went across the river. Some of the people tried sending their wheat round to Sydney, *via* Melbourne, but I am sure they lost money by it. I have no doubt that if the proposed railway from Berrigan to Finley were constructed it would be patronised by the settlers around Tocumwal.

To Mr. Black: In saying that nearly all the wheat grown in and around Tocumwal last year went to Jerilderie, I intended also to convey to the Committee my opinion that, if the proposed railway had been constructed to Finley, possibly all of it might have come this way. There is a fair amount of settlement south-west of Tocumwal, and I have no doubt that the traffic from that district would come to Finley, because I think the people living in that district are nearer to Finley than they are to any Victorian railway station, for in order to get into Victoria they have to travel right up the river, and there is no cutting

off any points. On the south-east of Tocumwal you come on to the Barooga Estate, and I would not like to express an opinion as to what the Barooga people would do under the circumstances. Mr. G. R. Jeffries. 23 July, 1896.

To Mr. O'Connor: M'Farlane Brothers, are the owners of Barooga.

To Mr. Black: Barooga would be almost as near to Berrigan as to Finley. As to whether—the roads being equally good—the wheat from Barooga would or would not probably go to Berrigan, I am not aware what the Barooga people would do. I have little or no connection with Barooga or people living up that way, and I cannot say what their ideas are. I think that the duty on wheat going into Victoria is 1s. 10d. a bushel. Of course we never pay duty on wheat going into Victoria, because what we send is merely for transit over the Victorian railway lines to Melbourne, and shipment thence round to Sydney. Certainly no wheat that goes from New South Wales into Victoria is consumed in Victoria. I suppose they grow enough wheat of their own for their own consumption. They do not want New South Wales wheat, and they will not buy it. I believe that all the wheat from New South Wales which is carried over the Victorian railways goes into consumption in some colony other than Victoria. I do not think that a grain of wheat that crosses the border from New South Wales goes into consumption in Victoria. The price of Victorian wheat now, at Yarroweyah, is about 4s. 6d. This being so, would it pay the Victorians to buy New South Wales wheat and have to pay a duty of 1s. 10d. a bushel on it. Wheat in the Melbourne market is worth from 4s. 10½d. to 5s. a bushel now. I have not sold wheat in the Sydney market, but I think a good many of us would be glad to sell in Sydney at 4s. 6d. just now.

Mr. John Howe, farmer, near Finley, sworn, and examined:—

To the Chairman: I reside 16 miles west from Finley, on the Deniliquin road, and am a farmer.

To Mr. O'Connor: I have lived about 18 years in the district. The total area of my land is 1,820 acres, of which 280 acres are under cultivation. The other land I use for grazing purposes. I run about 1,600 sheep. I send my wool to Melbourne, and my wheat to Jerilderie. I send my wool to Melbourne because that is the nearest market for it. The construction of the proposed railway from Berrigan to Finley would induce me to send my wool to Sydney if the total cost of carriage to Sydney were not greater than to Melbourne. If the proposed railway were constructed, it would be more advantageous for me to send my wheat to Finley instead of to Jerilderie, and I think I should do so. There are two or three settlers near me. I think that they would be similarly disposed with myself to send their wheat to Finley. They now send it principally to Jerilderie. One sends his to Melbourne, I think. I know the travelling stock route between Tocumwal and Jerilderie. I do not think there is any necessity for that immense reserve for the purposes of a stock route. I believe that if a large proportion of it were thrown open for settlement, it would be taken up. My average yield of wheat is four bags to the acre. I know this district very well. It is a very good district for either wheat-growing or grazing. I think you could not better it. When I came to live here eighteen years ago, there were far more people here than there are at the present time—I mean, all round where I am settled, but not with regard to Finley. I refer to men who selected under the Act of 1876. They have sold out to the squatters. I cannot say whether it was to their advantage to sell out. I have not sold an acre of my land. I held it because I thought it was more advantageous for me to retain it than to sell it. Mr. J. Howe. 23 July, 1896.

To Mr. Black: I have selected 640 acres within the last six years, and in January, 1895, I had 1,280 acres—640 on Tuppal and 640 on Woperana—but now I have 1,820 acres. My daughter had a selection and she has transferred it to me.

To Mr. O'Connor: Within the last few years I have noticed an addition to the population around Finley, and a great increase in settlement. Whether if facilities of transit were afforded to induce people to come and settle here the population would increase depends on whether the owners of the land would let it out. If the land were for sale I have no doubt that more people would come and settle here, and some thousands of acres would be taken up. I believe that people are coming here every day looking for land. If we had a large population here, I think that instead of a railway from Berrigan to Finley being a burden on the State, it would pay well in course of time.

To the Chairman: My wheat yield is about 1,200 bags.

Reginald Ernest Glennie, Esq., Manager, Commercial Banking Company of Sydney (Limited), Tocumwal, sworn, and examined:—

To the Chairman: I am the manager of the Tocumwal Branch of the Commercial Banking Company of Sydney (Limited); I have held that position for four years. I was previously, for about two years, manager of the Commercial Bank at Berrigan. During my residence in the district I have had an excellent opportunity of coming in contact with many of the farmers and settlers. I have also had means of acquiring a knowledge of the development of the resources of the district and the settlement that has taken place during that period. I think there is no question that the settlers who have lately been the means of developing the resources of the district and increasing the settlement in it are a practical, thrifty lot of men. They are all very well-to-do, and, at the present moment, I should say they are all in a thoroughly sound financial position. The conditions under which they have taken up their holdings have certainly not been at all embarrassing to them. The settlement in and around Tocumwal is increasing day by day, and the demand for land is very great at the present time. There is no doubt that if lands were thrown open and made available for settlement they would be eagerly sought after. The experience of the last few months speaks for itself. The Government have thrown open certain lands lately, and there have been hundreds of applicants for every block. If the squatters or the Government were to throw open lands and make them available for settlement, I have not the slightest doubt that they would be very quickly taken up, even under conditions similar to those under which the present holdings are held. I know the travelling stock route from Tocumwal to Jerilderie. I think that that reserve is rather more extensive than is now necessary for the purposes of a travelling stock route, and that half of its area would be sufficient for those purposes. If the proposed railway from Berrigan to Finley were constructed, I think that the necessity for the travelling stock reserve, as such, would become less. If one half of that reserve were thrown open to intending settlers, there would be no difficulty about its being taken up. I am sure that every acre of it would be taken up even if it were ten times as large. My experience goes to show that as a wheat-producing district this district has few equals, in fact, I doubt if it has an equal as a wheat-producing district. I think that the soil is capable of producing any cereal—in R. E. Glennie, Esq. 23 July, 1896.

R. E. Glennie, Esq. 23 July, 1896.

in fact, it has been proved that it will. Up to the present time the majority of the Finley farmers have been in the habit of sending their produce to Sydney, *via* Jerilderie, which is the nearest railway station. The farmers close to Tocumwal, I think, with few exceptions, send their produce *via* Melbourne, and then round by water to Sydney. I think, that perhaps more wheat went to Sydney this year than during the previous year, but that was really owing to local circumstances, as the Tocumwal market this year was controlled, perhaps, by a firm who were not prepared to give such high prices as they were prepared to give the previous year. If they had been prepared to offer a fair price they would have got a much greater quantity of wheat than they did. Supposing that the proposed railway from Berrigan to Finley were constructed, I think that every bushel of wheat produced in the district between Finley and Tocumwal would travel over this line. With the increased facilities provided by railway communication being established between Finley and Berrigan, I have not the slightest doubt that the farmers in the Tocumwal district would avail themselves of this line, as it would give them a cheaper means of transit. I feel sure that the construction of this railway would lead to greater settlement in this district, and to a larger area being placed under cultivation. Most of my constituents holding land in the district have intimated to me that if the proposed line were constructed they would throw open large areas of land on reasonable terms. I feel sure that the effort of the Government to provide facilities for the carriage of produce to market will be appreciated by the settlers, and they will put forth every legitimate effort in order to make the line a paying concern. This year the increase of the area under crop in the Tocumwal district has been very extensive—for instance, Mr. Sugden, who unfortunately is unable to attend here to-day or he would have done so, had 800 acres under cultivation last year, and he has 4,000 acres this year. In the ordinary course of events that wheat would all cross the river at Tocumwal or Cobram.

To Mr. O'Connor: In the event of the construction of the proposed railway, I feel sure that every bushel of Mr. Sugden's wheat will be sent over it.

To the Chairman: Taking the average yield at 4 bags to the acre, there would be about 16,000 bags that would be conveyed by this railway for that gentleman alone. You have already examined Mr. Jeffries, who represents the executors of the late Edward Hillston. His cultivation this year has increased from 400 to 1,200 acres, and there has been a proportionate increase of cultivation throughout the district.

To Mr. O'Connor: I have no doubt that Mr. Jeffries would also send his produce by this railway.

To the Chairman: I should say that this year, within a radius of 6 miles of Tocumwal—that is, in the half circle—there are at present about 7,000 acres under cultivation, whilst last year there were only about 3,000 acres under cultivation.

Mr. Matthew George Hamilton, farmer and grazier, near Finley, sworn, and examined:—

Mr. M. G. Hamilton. 23 July, 1896.

To the Chairman: I am a farmer and grazier. I have resided in this district about sixteen years. I was previously at Deniliquin. I have 1,460 acres in this district.

To Mr. O'Connor: My holding is about 2 miles distant from Finley, north-west. During the last four or five years I have noticed a great improvement in this district. There were many settlers here when I first came, but they mostly sold out, and the land went back to the stations. During the last four or five years settlement has increased very much in this district. I have 460 acres under cultivation. My wheat yield is from 12 to 20 bushels per acre. I know this country very well. I have travelled along the travelling stock route from Tocumwal to Jerilderie several times. I do not think that all that area is required for a travelling stock route now. I think that half of it would be ample for that purpose, and that if the other half were thrown open for selection there would be applicants for it. I should be very glad to take advantage of the facilities of railway communication to send all my produce to Sydney. I am sufficiently familiar with the people of this district who are now compelled to send their produce by team to Jerilderie and Berrigan, to be able to say that they would be only too glad to abandon that primitive method of transit and send their produce by the railway. I was in the room this morning, during the time when most of the witnesses were giving evidence, and in the main I agree with the evidence given by them.

To the Chairman: 1,460 acres is the total extent of the holding farmed by my brother and myself. We selected most of that land when we first came into the district. At that time there was no cultivation in the district. We could not then make it pay, because we had no railway facilities. We took up the land for grazing purposes. We were previously farmers in Victoria. We have had what is termed the usual yield of wheat from our crop, and taking the average at four bags to the acre we should send about 2,000 bags of wheat to the market. Ever since we have been growing wheat here we have sent it all to Jerilderie. If the proposed railway be constructed, I am prepared to send our wheat *via* Finley. We have about 600 sheep and about eighty or ninety horses and cattle, and if I desired to do any business with the Sydney market I should be prepared to send my live stock by rail.

Mr. Arthur Westlake Sleeman, farmer, near Finley, sworn, and examined:—

Mr. A. W. Sleeman. 23 July, 1896.

To the Chairman: I reside on the Tuppal holding, and am a farmer. I hold about 670 acres, of which 300 acres are under cultivation. I have some conditional purchase land, and the other is rented. I am satisfied to make that my permanent place of abode under the conditions upon which I am at present carrying on agricultural pursuits. I send my wheat to Jerilderie, and I send stock to Sydney. During the last twelve months I have sent four trucks of sheep to the Sydney market, and also some to Melbourne. If the proposed railway from Berrigan to Finley were constructed, I would certainly patronise it by sending my wheat by it, but I think I should send my stock to the Jerilderie railway station, and thus save the freight on stock between here and Jerilderie. It would not pay me to bring stock to Finley and truck it to Sydney, because I am only about 30 miles from Jerilderie. I think that the farmers in the immediate vicinity of my holding are of the same opinion as I am. I believe that they would make an honest attempt to justify the construction of the proposed railway. I have heard some of the evidence given before the Sectional Committee to-day by other witnesses, and I think that in the main what has been stated is correct. There is not the slightest doubt that this railway would be a great boon to the Finley district, and would give a great incentive to the farmers to push on and put a greater quantity of land under cultivation. The area, I believe, would be increased every year. During the last three or four years I have noticed a great increase of cultivation in this district. I have been here twelve or thirteen years.

When

When I first came here I think that within a short radius of the Finley township there were only about 40 acres of land under wheat cultivation. I know the travelling stock route. I do not think it is necessary to retain the whole of that reserve for the use of travelling stock. If half of it were taken away I think that would be about a fair thing. I believe that intending settlers would readily seek after the remaining half, and if it were thrown open at a reasonable rental there would not be one acre left. If increased railway facilities were afforded to the district I have no doubt that in the first year after that reserve was thrown open more than half of the land made available for settlement would be under the plough. An area of 320 acres is sufficient for a man to make a start on; but as years go on it is not sufficient for him and a family. He then wants at least 640 acres. He would work 320 acres out in a short time, and if that was all the land he had he would have nothing to fall back upon. A man wants a sufficient quantity of land to enable him to give the area originally worked by him a rest for a time. Of course, a man who has not much money may work 320 acres better than 640 acres; but a man with a fair amount of means is better with 640 acres. There are no Crown lands near me, but there are some 7 or 8 miles away from me. If those Crown lands were thrown open for selection I think that every acre would be taken up, if this proposed railway were constructed.

Mr. A. W. Sleeman. 23 July, 1896.

Mr. William Tindale, publican, Finley, sworn, and examined:—

To the Chairman: I am a publican. I have been in this district about two years. The construction of the proposed railway from Berrigan to Finley would benefit me. I believe that the surveyed line passes through some of my land adjoining this township. I have 200 acres, and I think that the railway would traverse my land for nearly a mile, and would take off the whole of my frontage to the Berrigan Road. I should have a frontage to the railway, but there would be no thoroughfare to it except on my own property; whereas, if the railway were on the opposite side of the road, it would not interfere with any private land at all. A strip a mile long is a very long stretch of country to take from me, out of 200 acres. I suggest that certain Government land on the outside of my paddock should be given to me in exchange for the portion of land taken for the railway. If there were a road between my property and the railway it would be all right. If I were to get Government land of the same value in exchange for the land taken from me I should be satisfied. The land I speak of is my own property. I have not quite 100 acres under crop.

To Mr. O'Connor: This is the first year that I have cultivated any of my land.

Mr. W. Tindale. 23 July, 1896.

Mr. William Blair, farmer, Finley, sworn, and examined:—

To Mr. Black: I reside barely 2 miles east of Finley, in the direction of Berrigan. The surveyed line for the proposed railway passes through my land. I have sufficient knowledge of the proposed route to suggest one alteration, if not more, which I think it would be desirable to make. I have also a sufficient knowledge of the intentions of the landowners, portions of whose property will be resumed for railway making purposes, to give evidence as to whether they are or are not likely to give their land free. By continuing the railway line now being made from Jerilderie to Berrigan on past the township of Berrigan, and passing it on the right instead of turning off short and passing it on the left, I do not think it would be possible to effect a deviation that might save some portion of land resumption. The increased mileage would so add to the cost of the line as to make such deviation unadvisable. As to whether there could be any deviation in the proposed route in the neighbourhood of Berrigan, that would save severance, I may say that instead of leaving the main road at the corner of Robertson's section—No. 68—I would go on in a straight line until reaching the border of Phipps' property when I would make a deviation from the straight line through Phipps' paddock to the fenced road. By that means there would be a saving of one severance and the crossing of one road. The surveyed allotments through which the proposed line, according to the plan, runs in Finley were originally intended for township allotments, but instead of being sold by the Government they were reserved for railway purposes. They form a town reserve, which is Government land. The proposed line runs along the northern or right side of the road coming from Berrigan to Finley. It goes through one of Mr. Harris' paddocks, and he demands compensation for severance. Mr. Batten, the next holder, also demands compensation. Mr. Phipps, the next holder, also demands compensation. Mr. M'Lellan also demands compensation. We then come to the portions of Messrs. Reynoldson and Russell. I have not had any replies from those gentlemen yet as to whether they would want compensation. I believe that Mr. Quade would give his land. Mr. Simmons is not disposed to give his land. Leaving Mr. Simmons' property, we come on to the holding of Mr. Faulkner, Tuppal, which is chiefly rented from him for cultivation purposes. Mr. Faulkner has expressed his willingness to permit of the resumption of portion of his land for railway construction purposes free of cost, provided his tenants are agreeable. He wrote me some eighteen months ago, just before the Railway Commissioners were here, to that effect. That letter was embodied in the report of the Sectional Committee which took evidence in January, 1895, with reference to the Jerilderie-Berrigan railway. As regards the willingness of Mr. Faulkner's tenants, I may say that Mr. John Blair is willing to give his land. I believe that Mr. Giles is also willing. Mr. Breadon is willing. I am willing. The evidence of Mr. Tindale, the last witness, goes to prove that if the Government will give him land of corresponding value he will willingly permit of the resumption of some of his land. I think it would be possible by a slight deviation of the line before entering the Finley township residential area to save half of the proposed resumption on Mr. Tindale's frontage. Mr. Faulkner's land goes further on the south side of the road than on the north. I have a knowledge as to the feelings of the holders on the southern side of the road—that is on the left side coming from Berrigan. The railway of necessity would pass through Mr. Harris' property, and also that of Mr. Batten whichever side of the road it afterwards took, and also the property of Mr. Phipps. Mr. David Gillespie would not be willing to give his land. I do not yet know the intentions of Messrs. Reynoldson and Russell. On the southern side of the roadway there is a Government reserve, which might be utilised for exchange with Messrs. Reynoldson and Russell, to recoup them for their land resumed for railway purposes. The next holding is that of Mr. Cooper, and he is willing to give his land. I have a letter from Mr. Kilpatrick authorising me to say that he will give his land. The next holding is that of Mr. Burns. Mr. Burns in giving evidence before this Committee has declared his willingness

Mr. W. Blair. 23 July, 1896.

Mr. W. Blair. 23 July, 1896.

willingness to give his land, provided that he be recouped by the Government allotting to him a portion of Crown land equal in value to that resumed by the Government. We then come on to the Tuppal holding, and in this case Mr. Faulkner's conditions are similar to those mentioned in his statement with regard to the other route, on the other side of the roadway. Mr. Giles, one of Mr. Faulkner's tenants on this side, would be willing to give his land. Mr. Kirkland, in his evidence before this Committee, has stated without reservation that he is willing to give his land. I understand that Mr. Dent is willing to give his land, and so is Mr. Beveridge. If the railway were brought along on the southern side of the road, instead of the northern, it would not touch the property of Mr. Tindale at all. There would also be an advantage in constructing the line on the southern side of the road, from the fact that the Wait-a-While Water Reserve would be available for the compensation of Messrs. Reynoldson and Russell, whereas, on the northern side of the road, it would not be available for the compensation of Mr. M'Lellan, who holds the opposite frontage. I believe that the route on the southern side of the road would be the cheapest to the Government. There would be less resumption to be paid for and more land given. There are no circumstances in the contour of the country or natural obstacles that render the southern line inferior to the northern. Including a mile at the Finley end, from 6½ to 7 miles of the line on the northern side of the road would be subject to compensation for resumption—that is, independent of Reynoldson and Russell, who have not yet signified their intentions, and who, I therefore suppose, may desire to be compensated. About 4 miles of the line on the southern side of the road would be, to the best of my knowledge, subject to compensation—that is, independent of Reynoldson and Russell. The land abutting on that roadway is worth £4 to £5 per acre, and it would be fair to suppose that those who demand compensation would require about the market value for a strip of land, 1 chain wide, running along their frontages—they might require a little more. The cost of a piece of land a chain wide on the farms, outside town allotments, will not exceed £40 per mile; therefore, after all, the use of the southern route, instead of the northern, would only result in a saving of possibly £100 or £120. There is only one reserve situated along that road. I think that the area of the Wait-a-While Reserve is between 400 and 500 acres. In my opinion, if a siding for the railway is placed there, the greater part of that reserve will be necessary as a reserve. Some of it will be required for people who come there with teams. It is all good land, suitable for agricultural purposes. I know water reserve No. 1,044, now leased to Mr. Burns. He does not use it for cultivation purposes. I do not know whether he is not permitted to do so. I do not think that that reserve is necessary as a water reserve. In my opinion it should be added to the cultivation area available in the district. I assisted Mr. Faulkner to make out a return in 1895 relating to holdings adjacent to Finley, to the west, north, and east of the travelling stock reserve. The figures furnished then are applicable now, except that there has been a great extension of the areas of some of the holdings, and in every case of the acreage under crop. I believe it is a fact that during the eighteen months that have elapsed since that evidence was taken in 1895 some of the farmers in the district have doubled their area under cultivation; some have increased it threefold, some fourfold, and some fivefold. I have heard all the evidence that has been given before this Sectional Committee, and in the main I agree with it. As regards the statement that Mr. Kirkland made with reference to the area that is likely to yield revenue to this railway, I would point out that he did not include that portion of the district about which Mr. Glennie gave evidence—namely, 700 or 800 acres in and around Tocumwal. The produce of that land, in my opinion, would also be sent to this railway. I thought the evidence of Mr. Kirkland ought to be supplemented in that direction. I should also like to point out that very little evidence has been given about any crop except wheat. It has been stated by some of the witnesses that oats could be grown here, but I am sure that hay also could be very profitably sent to the Sydney market if the proposed railway were constructed. Hay being a bulky crop we have been prohibited from sending it to the Sydney market up to the present time owing to want of railway communication. At £4 for chaff in Sydney, it would pay us to grow hay in Finley and sell it in that market. I have been in the Goulburn Valley, Victoria, several times, and I know the capabilities of that district for growing grapes. I have tasted the wines made there. I am of opinion that this district is as much adapted for grape cultivation as the Goulburn Valley is. I would hardly like to say that this district is superior in that respect. I am not an expert in the cultivation of vines. With proper railway communication vignerons in this district would have quite as many advantages, if not better facilities, than people living on the other side of the river. There are some reserves on Tuppal station. When the Tuppal holding was sold, I believe there were from 20,000 to 30,000 acres of Government land on that holding, and very little of that has been alienated since. That land was set apart for water reserves, and timber reserves, and travelling stock camps, &c. It is now held under grazing lease. I think that the Government would act very wisely if they were to arrange to give Mr. Faulkner another area in substitution for those reserves and throw them open for settlement at as early a date as possible.

To the Chairman.] If the proposed line were constructed, and if those reserves on Tuppal holding were thrown open for settlement, I believe that the settlers over the whole of that holding would patronise this railway. I think that the Government well in the township of Finley contains an ample supply of water for railway purposes. I believe that in order to obtain a water supply the people hereabouts sink to a depth of about 140 feet. So far the Government well has proved to be of a permanent character.

Mr. George Dent, farmer, Finley, sworn, and examined:—

Mr. G. Dent. 23 July, 1896.

To the Chairman: I am a farmer residing about 2 miles from Finley, towards Berrigan. I hold 848 acres, of which 700 acres are under cultivation. My average wheat yield has been about four bags per acre. I grow about 2,500 bags of wheat. I should certainly patronise the railway if it were extended to Finley, because it would give me the cheapest means of transit. The proposed line would go through my land and I am prepared to give whatever land is required for the purposes of railway construction. I consider that I should be amply compensated by the extra facilities that would be afforded me by the extension of the railway from Finley; I reckon that I should get back the value of the land in one year. I most decidedly am of opinion that there would be a *bonâ-fide* attempt made on the part of the settlers in the district to make the line a paying one and justify the anticipations of the gentlemen who have given evidence before the Sectional Committee to-day.

Mr. George Reynoldson, farmer, near Finley, sworn, and examined :—

Mr. G. Reynoldson. 23 July, 1896.

To the Chairman : I am an auctioneer and a farmer residing at my farm half-way between Berrigan and Finley. I have occupied the farm about 8 years. My partner and I have altogether about 2,200 acres, of which about 1,800 acres are under crop. We acquired the land by purchase. The average wheat yield during the time I have been there has been fully four bags to the acre. We have sent our wheat to Sydney *via* Jerilderie—by team from here to Jerilderie. If the proposed railway be constructed we shall make use of it, in sending our wheat to the Sydney market. The balance of our land we use for grazing purposes. The proposed railway will go through our property, but I do not know the exact distance. I know how much the flying survey went through it, but I believe that the line at present proposed does not go through it in the same way.

To Mr. Black : I have land on both sides of the road.

To the Chairman : On whatever side of the road the line were constructed it would go through my land. In reply to your question as to whether I am prepared to hand over to the Government free of cost any of my land required for railway construction purposes, I may say that the land cost me £4 5s. an acre, and giving the land for nothing would, perhaps, come a little hard on me personally, seeing that I am only a reasonable distance from the present terminus at Berrigan. However, there is a little reserve, and I think that we could come to an arrangement with the Government. There is a reserved road passing through our land, and I think we could make an exchange with the Government. There will be no difficulty as regards the present proposal ; but I would not say the same in regard to the flying survey from the Rock, because it cuts up a block of land. We are prepared to give the land in connection with the present proposal, provided that the Government make a road which will suit us and also the public. We would give land on either side of the road so long as the line comes along the present road. There has been a great increase in the output of wheat in this district during the last four or five years. When I first came here I could not get any horse feed, and almost all the wheat that has ever been grown in this district has been cultivated since I came here. I believe that the mill at Jerilderie was started on the understanding that the farmers in this district would cultivate a certain area. During the last twelve or eighteen months increased areas have been put under cultivation, and I am sure that still greater areas will be put under cultivation if the proposed railway be constructed. I believe that every acre will be highly cultivated. I do not consider it is necessary that the travelling stock route from Tocumwal to Jerilderie should be retained to the full extent of its present area. I think that if it were made available for settlement it would be eagerly sought after. I cannot understand how it is of any good to any people at the present time except the pastoralists. If I were travelling sheep through it to-morrow there would be no feed for them, and I should want to get through it as quickly as possible.

To Mr. Black : I have a high opinion of the capabilities of the soil here, and I think it is suitable for the growing of vines. I have 8 acres of vines at my place, and I have proved that the soil is capable in that respect. I have both an orchard and a vineyard. Professor Braggato examined the soil before I planted my vines, and he said that it would grow grapes suitable for wine making. I planted the vines on his recommendation, as being suitable for wine-making, and up to the present time they have produced an exceptionally good grape, but I have not yet tested their wine-making capabilities. When I planted the vines, I did not expect to get much return from them, because I had not then sufficient capital to go into viticulture properly. Professor Braggato is an expert—he is professor at the Viticultural College that has been established at Rutherglen, Victoria. He was brought out from the old country by the Victorian Government. He came here and examined my place as an act of friendship towards me.

To Mr. O'Connor : I have not been disappointed with my vines.

To the Chairman : In my orchard I have grown brown plums, apricots, peaches, and apples. They have done well. My oranges and lemons have not done well, but I think that that is owing to neglect on my part. I have put in a couple of acres of oranges and lemons, but they had been frost-bitten on the station I obtained them from, and they were not successful in their growth. The dairying industry could be carried on with success here if we had the facilities of railway communication. I am carrying on the dairying industry in Victoria, just across the river, most successfully. There is only one thing I should like to add to my evidence. You, yourselves, have seen the district and the capabilities of the soil. We are asking you to recommend to the Government the construction of a line of railway at a low cost, and we say that the soil here will grow anything, and that all we want is encouragement to put it under cultivation. We will guarantee to give you as much cheap produce in Sydney as you may require if you will only give us the railway. We have the land, and with a railway we will feed you cheaply enough, and you will not have to go to California for wheat.

Sydney : Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAY FROM GRAFTON TO GLEN INNES.

(RETURN RESPECTING.)

Printed under No. 16 *Report from Printing Committee,* 3 *September,* 1896.

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated the 30th June, 1896,—

"That there be laid upon the Table of this House, all petitions, reports, "letters, minutes, and other documents relating to the construction of a "line of railway from Grafton to Glen Innes."

(*Mr. See.*)

SCHEDULE.

* *Omitted by the Printing Committee.*

377—A

[605 copies—Approximate Cost of Printing (labour and material), £78 17s. 11d.]

RAILWAY FROM GRAFTON TO GLEN INNES.

No. 8.

Telegram from T. Bawden and J. Dillon, Esqs., M's.P., to The Secretary for Public Works.

Grafton.

Residents Glen Innes and Inverell very desirous that exploration for railway purposes in continuation of present exploration by Surveyor Francis—Grafton to Glen Innes—should be extended to Inverell and Warialda previous to inspection of any other route between Clarence and table-land. Please instruct Surveyor Francis to do this. Reply early so that arrangements may be made for guides to accompany him over country proposed to be explored. Very urgent.

Mr. Whitton.—J.R., B.C., 6/7/78.

Mr. Francis has received instructions, and made arrangements for examining the country in various directions between the Clarence district and the table-land of New England, and it would not, therefore, be desirable to explore the route suggested in the telegram until this work has been completed.—J.W. (*per.* W.H.Q.), 11/7/78. Under Secretary.

Inform.—J.S., 12/7/78. The Engineer-in-Chief for Railways.—J.R., B.C., 15/7/78. Mr. Francis to be instructed to explore for a line from Glen Innes to Inverell and Warialda, and to arrange with Mr. Bawden, M.P., of Grafton, for guides.—J.W. (*per* W.H.Q.), 28/8/78. Telegram sent to Mr. Francis, 28/8/78. Mr. Palmer. Instructions forwarded to Mr. Francis.—H.P., 29/8/78.

Sir, Department of Public Works, Sydney, 15 July, 1878.

In reply to your telegram of the 2nd instant, that instructions be given to the Railway Trial Surveyors to extend their explorations to the country in the vicinity of Inverell and Warialda, previous to the inspection of any other route between the Clarence and the table-land of New England, I am directed to inform you that Mr. Surveyor Francis has already received instructions, and made arrangements for examining the country in various directions between the Clarence and the table-land, and it would not, therefore, be desirable to explore the route suggested until this work has been completed.

I have, &c.,

Thomas Bawden, Esq., M.P. JOHN RAE.

No. 10.

A. Francis, Esq., to The Engineer-in-Chief for Railways.

Sir, Glen Innes, 17 July, 1878.

I have the honor to report that on my arrival at Grafton I placed myself in communication with Mr. Thomas Page, the Secretary for the Clarence and New England Railway League, who immediately set about making the necessary preparations for exploring a route between Grafton and Glen Innes. The route proposed by the guides furnished by the League commences at South Grafton, and accepts the original survey as far as B.M. 2 on the Newton Boyd Road, near the Waterview fence; then into Deep Creek, and follows the course of the creek to the Orara River; then up the Orara to its junction with Chambigne Creek; the route then follows the valley of the Chambigne Creek to its junction with a creek known as Stinking Creek, and having ascended Stinking Creek as far as it would afford a practicable gradient, it was proposed to tunnel through the Buccarumbi Mountain into a creek leading into the Nymboi River. Having reached the Nymboi River, it was proposed to cross it near its junction with the Little River; then follow up the valley of the Little River to Broadmeadows; then on to Newton Boyd, following generally the course of the Newton Boyd Road. From Newton Boyd to Glen Innes several different routes were proposed for examination. One was to connect the survey of the Little River with the original survey up the Mann River; then follow up the Mann River to its junction with Leather Jacket or Yellow Jacket Creek; then up the creek for about 5 miles, until the third crossing of the Newton Boyd Road was reached; then round by the Mann River and connect with the original survey somewhere about Surveyors' Creek, or cross the Yarrow and Mitchell Rivers from the neighbourhood of Surveyors' Creek, when it was supposed that an easy line could be obtained to the table-land of New England. Another project was to follow up the Henry River from Newton Boyd to its junction with Saddle Creek; then follow up Saddle Creek, which it was supposed would afford a line to the table-land.

From South Grafton the country by the Deep Creek presents no difficulties, and the route passed generally through good agricultural land. The first work of any importance on this route would be a bridge over the Orara River. Following the valley of the Chambigne Creek to its junction with Stinking Creek, we found the country favourable, the rise in the bed of the creek above its junction with the Orara—that is to say in 10 miles—being about 200 feet. The valley is open up to this point, and the banks of the creek have a gentle slope. The valley abounds in good timber, chiefly ironbark and spotted gum. On ascending Stinking Creek we found the bed of the creek rising at the rate of 110 feet per mile for the first two miles from its junction with the Chambigne Creek. Proceeding a mile further up the creek, we found its bed rising at the rate of 300 feet per mile and its rate of inclination still increasing; in fact, it was heading into the Buccarumbi Mountain.

From this point it was proposed to tunnel through the mountain. Having abandoned this project as impracticable, we proceeded to follow up the valley of the Chambigne Creek to its head in the range where it was proposed to tunnel through into Doboy Creek. From the junction of Stinking Creek up the

the Chambigne Creek the aneroid indicated a rise of 350 feet in a distance estimated at a little over 2 miles, when the country rose abruptly. The creek had here become narrow and crooked, and in about 40 or 50 chains more we had risen 525 feet to the saddle over Doboy Creek. This is the narrowest point known in the Buccarumbi Range, and a tunnel through it would probably be about a mile in length.

Following the course of the Doboy Creek to its junction with the Nymboi River, we found the country favourable. From the junction of Doboy Creek along the valley of the Nymboi River the country rises gently to Buccarumbi. The banks of the river on the east side (the side selected for the proposed route) are in many places rugged and precipitous, with a few bluffs, which it would be necessary to cut down to a gradient or tunnel through. There are about 5 or 6 miles of gently sloping bank. The creek crossings on this portion of the proposed route would be numerous and expensive.

The next important work on this route would be a bridge over the Nymboi River, near its junction with the Little River at Buccarumbi. After a careful examination of both banks of this river the balance of easy country (if any portion of this route can be said to be easy) appears to me to be on the same side as the Newton Boyd Road.

The distance along the Little River, from its junction with the Nymboi to Broadmeadows, is about 30 miles, and the whole of the country on this portion of the proposed route is of the most difficult description.

The banks of the river for many miles are very high and steep, and in many places perpendicular bluffs. The bends in the river are acute, and it would be necessary to tunnel through many of the spurs, and the creek crossings would be very numerous, and many of them very long and deep; in fact, nearly all the works on this 30 miles would consist of heavy cuttings, tunnels, and expensive bridges. I am of opinion that 30 miles of the section of the worst parts of the Mann and Yarrow Rivers would compare favourably with 30 miles of section along either bank of the Little River.

From Broadmeadows to Newton Boyd two tunnels would be necessary on this length, one commencing at about 60 chains from Carey's Accommodation House, at Broadmeadows, would be about half a mile in length; the other, about 3 miles from Carey's, would probably be a little shorter. After having passed these obstacles the country is easy to Newton Boyd. This route might then be connected with the original survey of the Mann River if required.

The next route explored commenced at B.M. 11, on the Mann River, near Newton Boyd. We had some difficulty in finding the original survey here, the surveyor who performed the work on this length having neglected to mark the line. We crossed the Mann River and followed its course up to its junction with Yellow Jacket Creek, then followed the creek to the third crossing of the Newton Boyd Road, about 5 miles up the creek. In this distance we had risen 740 feet in the bed of the creek. This was a point which the guides supposed could be easily made from the Mann River. The creek here became narrow and steep, and headed into the range. From this point a proposition was made to tunnel through a spur, then follow the course of the Mann River to Surveyors' Creek, and there connect with the original survey and accept the original survey up to Glen Innes; or from the neighbourhood of Surveyors' Creek cross the Yarrow and Mitchell Rivers above their junction with the Mann River, when it supposed that the difficulty of reaching the table-land of New England would be at an end. The objection to the first project was that it accepted the most objectionable portion of the original survey, the portion, in fact, which most needed amendment, and led into country which it was most desirable to avoid.

The second project, that of crossing the Yarrow and Mitchell Rivers from the altitude of the original survey, was simply nonsense, and if the Yarrow were crossed at a low level it would be impossible to rise out of it.

Up to this point the route explored is identical with a route proposed by Mr. Hook in a letter to the League at Glen Innes.

Mr. Hook thinks that a tunnel of about a mile in length, commencing in Leather Jacket Creek, and leading to a depression in the Kingsgate run, would dispose of the difficulty.

My impression is that Mr. Hook's proposed tunnel would lead to exceedingly difficult ground, from which it would be difficult to escape, except by connecting with the original survey somewhere on the Yarrow River.

With a view of discovering some less objectionable route, we returned to Newton Boyd, and explored the Henry River to its junction with Saddle Creek, about 5 miles up the Henry.

We found the Henry River practicable up to this point; but being deemed impracticable further up it was proposed to explore Saddle Creek, which it was supposed would afford a practicable line to the table-land.

Saddle Creek is a narrow, crooked gorge in the mountains, with sides so nearly perpendicular that neither horse nor man can possibly walk along them for any distance. The bed of the creek being also impracticable for several miles, we were constrained to examine this route from the top of a ridge forming the left bank of the creek facing towards the table-land on this ridge; we rose 1,650 feet in a distance estimated by the guides at about 2 miles.

Descending into the bed of the creek, at an estimated distance of 7 miles from its junction with the Henry, the aneroid indicated a rise of 1,530 feet above that point, about 218 feet to the mile.

We were then in a broken, impracticable mountain range, from which escape by any practicable route was impossible, and any further exploration in that direction was manifestly useless.

I then proceeded by tracks through the scrub, known to the guides, to Yarrow Creek Station, with the view of examining the country in that locality, and then on to Glen Innes to meet a guide who was to point out another route from the Mann River to Glen Innes.

The next route proposed for examination was by a creek known as Scrubby or Disscruby Creek. This creek junctions with the Mann River, about 3 miles below the crossing of the Newton Boyd Road. It was supposed by the guides that this creek would be of sufficient length to afford a practicable gradient to the table-land. It was then proposed to cross a low range and drop into a creek known as Dirty Creek; then follow Dirty Creek to a point on the Newton Boyd Road, about 20 miles from Glen Innes; then follow the general course of the Newton Boyd Road for about 8 miles; then to the Beardy River by a creek known as the Fifteen-mile Creek, and on to Glen Innes, following the general course of an old road from Glen Elgin.

The country between Glen Innes and the Scrubby Creek is favourable enough, but on ascending the creek from the Mann River we found a rise of 440 feet above the original survey in a distance of about 2½ miles.

At

At a distance of about 4½ miles from the junction we had risen 1,420 feet, and in about 7 miles we had risen 2,000 feet, and were on the table-land.

The fall from the table-land of New England, in the direction of the Mann River, is everywhere abrupt, and the distance varies from about 6 to 8 miles. In this distance there is a fall of about 2,000 feet. It is evident, therefore, that any attempt to make the descent by any leading creek or spur must prove a failure. The only way in which the descent from the table-land to the Mann River can be effected is by skirting along the range and crossing the creeks and spurs, and I see no better ground for this purpose than that over which the original survey is carried.

I think a little improvement may be made in the original survey in the neighbourhood of Stockyard Creek by lengthening the line above it, and crossing the creek at a lower level, and no doubt the line is capable of being improved in other places. The route between Grafton and Newton Boyd, explored by me, and described in this report, does not appear to me to possess any advantages over the route already surveyed; on the contrary, I am of opinion that a survey would prove it to be more costly, and from Newton Boyd to Glen Innes I consider the route already surveyed to be the only practicable one yet discovered.

I have, &c.,
A. FRANCIS.

Copy of this report forwarded for the information of the Minister. Memo. 78-458.—W.H.Q., 25 July. Read by Engineer-in-Chief. W.H.Q., 6/8/78. Mr. Palmer.—H.P., 7/8/78.

No. 12.

Minute by The Engineer-in-Chief for Railways to The Secretary for Public Works.

Department of Public Works, Railway Branch, Engineer-in-Chief's Office,

Sydney, 21 August, 1878.

Subject: Railway Trial Surveys—Clarence to New England.

I FORWARD herewith for the information of the Minister a copy of the report furnished by Mr. Surveyor Francis upon the route pointed out by the Messrs. Wright for a proposed line of railway from Laurence to Glen Innes.

W. H. Q.
(For the Engineer-in-Chief).

Submitted.—J.R., 21/8/78. Inform Mr. Wright.—J.S., 22/8/78. Messrs. Wright, 22/8/78. Engineer-in-Chief for Railways.—J.R., B.C., 29/8/78.

[*Enclosure.*]

The Engineer-in-Chief for Railways, Sydney,—

Sir,

Laurence, 6 August, 1878.

I have the honor to report that, in obedience to your instructions, dated 11th June, 1878, I met the Messrs. Wright at Glen Innes, and have explored the route between Glen Innes and Laurence, as pointed out by them.

This route leaves Glen Innes on the north side of the township, and passes close by the cemetery. It then follows the old Glen Elgin Road for about 12 miles, crossing the Beardy River a few chains north of the road, and passing through Devlin's conditional purchase at the Toll Bar Range.

The route then follows the general direction of the Grafton and Glen Innes Road to the crossing of Dirty Creek, about 21 or 22 miles from Glen Innes. From the crossing of Dirty Creek the route follows the general course of the Glen Elgin Road to a saddle about 2 miles south of Glen Elgin Station. From this saddle the route follows a direction nearly north north east through the Glen Elgin paddocks, and crossing a creek known as Black Mountain Creek; thence, in about the same direction, to the junction of Blower's Creek with the Rocky River. Crossing Blower's Creek, the route follows the valley of the Rocky River to the head of Bob Shaw's Gully, about half a mile past Aked's homestead on the Rocky River. The route then follows the general course of a track along Bob Shaw's Gully to Oakey Flat, about 37 miles from Glen Innes.

From Oakey Flat the route crosses a range dividing the counties of Clive and Drake; then in a direction about north north east for about 8 or 9 miles to the head of the Washpool Creek; the route then follows the Washpool Creek down to a selection of Mr. Ogilvie, near Lyonville; thence to Laurence, following the general course of a road from Lyonville to Laurence, crossing the Couldale Range a little north of the road.

From Glen Innes to Glen Elgin the country is comparatively easy, the only works of any importance on this portion of the route being a bridge over the Beardy River, and a cutting through the Toll Bar Range, about 12 miles from Glen Innes, and a bridge at the crossing of Dirty Creek.

From Glen Elgin to Oakey Flat the country is not so easy, being broken up into ridges and gullies. Besides the bridges over Black Mountain Creek and Blower's Gully there would be some expensive cuttings and bridges in Bob Shaw's Gully.

Oakey Flat is situate on the west slope of the table-land of New England. A creek, shown on the county map as Oakey Creek, flows from the flat into the Rocky River. On the north and east of Oakey Flat the country rises suddenly to the level of the table-land of New England. Below the junction of Oakey Creek the Rocky River is a succession of rocky falls, and is confined between perpendicular walls of granite. It was impossible then to get away by the Rocky River. A low place in the range, on the route proposed by the Messrs. Wright, was found to be 640 feet above Oakey Flat, at a distance of about a mile and a half from the flat.

The top of the range is flat, being, in fact, a portion of the table-land; it could not, therefore, be tunnelled. A portion of the 640 feet might possibly be made, perhaps half the height, by commencing the ascent earlier, but the balance would have to be attained by a zig-zag.

The country between the top of this range and the head of the Washpool Creek, about 9 miles, consists of broken granite ranges and deep creeks, which are crossed by the proposed route at right angles. At a range about 43 miles from Glen Innes there is a remarkable rock called the Haystack. To get through this range a tunnel, about 90 or 100 chains in length, would be required. About a mile further on the ground falls 270 feet in about 40 chains to Newman's Creek, and rises again 340 feet to Key's Gap, in about 70 or 80 chains. I see no possible way of avoiding this difficulty.

From Key's Gap the distance to the head of the Washpool Creek is about 1 mile, and the ground falls 70 feet. The saddle at the head of the Washpool Creek, about 47 miles from Glen Innes, is about 250 feet below the level of that township; up to this point then very little had been done towards making the descent from the table-land of New England.

At Mr. Ogilvie's selection on the Washpool Creek, near Lyonville, about 18 miles below the head of the creek, the country is very little above the level of the Clarence River, and would afford a practicable gradient for about 8 or 10 miles up the creek.

It was evident, then, that there must be a fall of at least 2,000 feet in the first 8 or 10 miles of the descent from the head of the creek.

It was impossible to examine this portion of the route, the country being covered with a dense scrub, so interlaced with vines as to render travelling through it an impossibility.

Three days fording rivers and creeks, scrambling over rocky ranges and tearing through scrub, by the way of the Rocky River and Solferino, brought the party again to the Washpool Creek, about 17 or 18 miles below its head.

In this distance the country had fallen 3,000 feet.

Further

Further exploration of this route was useless ; but as the remainder of the proposed route lay in the neighbourhood of the road to Laurence, I examined the country from the road.

At about 20 miles from Laurence the route crosses the Couldale Range. This range is broken and rugged, and could only be got over with very heavy cuttings and sharp curves.

It was raining heavily all the time the party were on this range, and our clothing and blankets were thoroughly saturated, and the other portion of the route having proved a failure, I did not think it necessary to spend more time in exploring a portion of the route that could not be connected.

It will be seen from this report that portions of the route proposed by the Messrs. Wright, namely, the crossing of Newman's Creek and the descent from the table-land by the Washpool Creek, are impracticable, and that other portions from Oakey Flat to Newman's Creek are by no means of that easy character described by those gentlemen in their letter to the Minister for Works.

I have, &c.,
A. FRANCIS.

No. 15.

The Engineer-in-Chief for Railways to The Secretary for Public Works.

Department of Public Works, Railway Branch, Engineer-in-Chief's Office,
Sydney, 13 September, 1878.

Subject :—Messrs. Wright's Claim.

On 15th May, 1877, Mr. Wright offered to mark out a line from Glen Innes to North Grafton if the Government would advance to him the sum of £60 to provide horses and procure provisions.

Messrs. Wright now claim £78 4s. 6d. for accompanying Mr. Francis from Glen Innes to Laurence, but their services were not of any value.

I therefore think that if the amount of £60, which was originally asked by them, be paid, they will have been liberally treated by the Government, considering that they failed to point out a better line than the one originally surveyed, and, in fact, were not acquainted with the whole of the country.

The sum of £20 was advanced to them before leaving Sydney ; the amount to be paid will, therefore, be £40, if the Minister approve of this suggestion.

JOHN WHITTON.

Submitted. Approved.—J.S., 18/9/78. The Engineer-in-Chief for Railways.—J.R., B.C., 19/9/78. Voucher certified.—W.H.Q., 20/9/78.

No. 19.

Petition from Residents of Tenterfield.

[Forwarded by John Dillon, Esq., M.P.]

To the Honorable the Minister for Public Works,—

Sir,

Chambers, Sydney, 29 May, 1879.

I have the honor to forward to you the enclosed petition, which I have received from the Chairman of a public meeting held at Tenterfield.

I have, &c.,
JOHN DILLON.

[*Enclosure.*]

To the Honorable the Minister for Public Works.

The humble Petition of the undersigned Inhabitants of Tenterfield and surrounding district,—

Showeth :—

That your Petitioners have for some time felt the want, which has been recognised by successive Governments for the last seven years, of an easy means of communication with Sydney and the seaboard generally.

That the necessity so long felt by your Petitioners, and recognised by the successive Governments of the country, is yearly increasing with the increase of the population and trade of the district which they inhabit.

That the population of this district is now estimated at 2,518 (exclusive of the rich and largely-populated district upon the immediate border), and that the farm holdings and conditionally purchased land in the district comprise an aggregate of 52,051 acres, of which 2,054 acres are under cultivation for wheat alone, and yield an acreage quantity of 41,735 bushels per annum, being at the rate of 20 bushels per annum to the acre, and that the total acreage under cultivation for all cereals and other crops is 3,669 acres ; and that, in the opinion of your Petitioners, a much larger area would be brought under cultivation if a market were provided by means of easy communication with Sydney and the non-wheat-producing districts of the Clarence and other districts lying between Grafton and Tenterfield.

That this district already carries on a large trade with the metropolis, which would be greatly increased if an easier means of transit were provided.

That your Petitioners learn, with pleasure, that the trial surveys for a railway between this district and the navigable waters of the Clarence, which have been in course of making for the last five years, have at length resulted in the discovery of a practicable and inexpensive route, namely, that pointed out by Mr. Marcolini, of Grafton, and approved of by Mr. Surveyor Francis.

That the route pointed out by Mr. Marcolini, and approved by Mr. Surveyor Francis, passes through a superior class of country, largely available for agricultural purposes, and abounding in minerals of a rich and valuable character.

That silver-mines have lately been discovered at Boorook, within 26 miles from Tenterfield, and within 10 miles from the proposed route, which promise to yield rich results, and to add considerably to the resources and population of this district.

Your Petitioners therefore pray that you will be pleased to take the premises into your favourable consideration, and that you will cause immediate steps to be taken to have a thorough trial survey to be made of the route abovementioned.

And your Petitioners, as in duty bound, will ever pray, &c., &c., &c.

For and on behalf of the inhabitants of Tenterfield, in public meeting assembled.

EDWARD R. WHEREAT,
Mayor and Chairman.

Acknowledge receipt, and state that its contents will receive consideration.—J.S., 30/5/79. Acknowledged, 3/6/79. Railways.—W.H., B.C., 3/6/79. The Engineer-in-Chief.—C.A.G., B.C., 3/6/79. Under Secretary.—J.W., 10/6/79. Put away. Seen.—J.S., 18/6/79. Railways.—J.R., B.C., 7/4/81. From surveyor's return.—J.S., 7/4/81. Mr. Quodling.—J.B., B.C., 8/4/81.

No. 20.

The Mayor of Grafton to The Secretary for Public Works.

Sir, Clarence and New England Railway Committee, Grafton, 1 September, 1879.

I have the honor, by direction of the above committee, to request that you will receive a deputation appointed to present you a petition adopted at an open air public meeting, held in this city on 29th June last, in support of the agitation now going on for the construction of a line of railway from Grafton to New England, and to request that you will fix some date that will suit your convenience to receive such deputation, and apprise me thereon, so that I may inform them.

I have, &c.,
THOMAS PAGE, Mayor,
Chairman of Committee.

Department of Public Works, Sydney, 10 September, 1879.

INFORM the Mayor of Grafton that the opening of the railway to Gunnedah, the pressure of public business, in addition to the various very important matters at present demanding special attention, will render the movements of the Minister uncertain for some time to come. Mr. Lackey, therefore, finds it difficult to fix a time that would be convenient for an interview by the proposed deputation. At the same time, state that it will be taken as a concession if the gentlemen interested will represent their views in writing, and that the Minister will then give this important subject his best consideration, and forward them a reply in lieu of the deputation. J.R., 10/9/79.

Railways.—W.H., B.C., 12/9/79.

Sir, Department of Public Works, Sydney, 11 September, 1879.

Referring to your letter of the 1st instant, requesting that the Secretary for Public Works will receive a deputation from the Railway Committee respecting the construction of a line of railway from Grafton to New England, I am directed to inform you that the opening of the railway to Gunnedah, and the pressure of public business, in addition to the various very important matters at present demanding special attention, will render the movements of the Minister uncertain for some time to come. Mr. Lackey therefore, finds it difficult to fix a time that would be convenient for an interview by the proposed deputation.

I am to state that it will be taken as a concession if the gentlemen interested will represent their views in writing, so that the Minister may give this important subject his best consideration, and forward them a reply, in lieu of the deputation suggested in your communication.

I have, &c.,
The Mayor of Grafton. GERALD HALLIGAN,
Acting Under Secretary.

No. 22.

The Mayor of Grafton to The Secretary for Public Works.

Forwarding a Petition from 1,650 residents of the Clarence River District, *re* railway, &c.

To the Honorable the Minister for Works, Sydney.

The Petition of the Inhabitants of the city of Grafton, and the Clarence River District generally,—

HUMBLY SHOWETH:—

That it is desirable and necessary, for the progress and development of the country, that a line of railway be constructed from Grafton to the table-land of New England.

That from the extensive area of rich agricultural land upon New England, it is urgently required that a line of railway be constructed from there to Grafton, to enable the large quantity of cereals and other produce grown to be done so with profit to the producers.

That your Petitioners desire that you cause a trial survey to be made over the route from Grafton to Tenterfield, pointed out by Mr. P. Marcolini to Mr. Railway-Surveyor Francis, and favourably reported upon by that gentleman.

That your memorialists desire to bring under your notice the length of time which has elapsed since the subject of railway communication between Grafton and New England was first brought forward, and that hitherto no steps of a practical nature have been taken by the Government to accomplish this work, which has now become a pressing necessity.

That, viewing the circumstances herein pointed out, your memorialists respectfully urge that you cause a sum of money to be placed upon the Estimates for the purpose of carrying out so important and desirable an undertaking.

And your Petitioners, as in duty bound, will ever pray, &c., &c., &c.

[*Here follow* 1,650 *signatures.*]

No. 24.

Extracts.

From *Daily Telegraph*, 15th November, 1879.

THE Minister for Works received a deputation, yesterday, from Grafton, who presented a petition for the construction of a line of railway from that town to the table-land of New England. The deputation was introduced by the Hon. J. Sutherland in the absence of the Member for the Clarence, and there were also present:—Hon. J. B. Watt, M.L.C., Messrs. J. See (of Nipper and See), M. Gottheelf, S. G. Davidson, S. A. Joseph (Montefiore, Joseph, & Co.), — Jamieson (Prince, Ogg, & Co.), T. Page (Mayor of Grafton), H. Maurice, W. Kinneen, and P. Marcoline. Mr. Page said there was no necessity to go much into detail on the subject, as the question of constructing a line had frequently been brought under the notice of the Government. He pointed out, however, that if such a railway as that asked for were made it would open up the whole of the wealthy New England district, and at the same time double the shipping

shipping in the Clarence River, without in any way injuring the port of Newcastle. It might be argued that when the northern line to Queensland was made, there would be no necessity for a line to Grafton; but the main northern line would not touch the districts he had referred to. He asked that the Government should give the matter early consideration during the present Session. The question of route would have to be decided by the Government. Mr. Marcoline said he had prepared a map of the district, showing what he believed to be the best route; and he had also brought a complete collection of specimens of the mineral resources of the country, which he would, if desired, place at the Minister's disposal. Mr. Lackey said it was not the first time that the desirability of making a line from the Clarence to the New England table-land had been under the consideration of the Government, it being ten years since the project was first started. Three surveys had been made, and he understood that another route had been found by one of the deputation. The point was, did the Government feel it their duty to recommend Parliament to expend the amount of money necessary for the construction of the line. For his part, he would see that the petition and the recommendations made should be laid before the Government when they were going through their railway projects for the coming year. He would, however, point out that the construction of the line would mean the introduction of a new railway policy, namely, that of connecting the coast with the table-lands in the interior, and if it were done in their case the southern districts would want the same privilege extended to them. He promised to lay the matter before the Government at an early day.

From *Sydney Morning Herald*, 15th November, 1879.

CLARENCE AND NEW ENGLAND RAILWAY.

A DEPUTATION, consisting of the Hon. J. B. Watt, M.L.C., Messrs. J. Sutherland, M.L.A., J. See, Gotthelf, Marcolini, Davison, Montefiore, Jamieson, Morrice, Kinnear, and Page, waited on the Minister for Works, with a view to advocate the construction of a line of railway from Grafton to the New England district. The advantages of the proposed line were set forth by the speakers, and in reply Mr. Lackey stated that this was not the first time that the necessity for the construction of a railway from the Clarence to the table-land of New England had been brought under the consideration of the Government, and two or three surveys had already been made. He did not know whether any information had been collected since in reference to a more desirable route than had already been surveyed. They wanted to know, he believed, whether the Government would feel it their duty to recommend to Parliament to vote the sum of money necessary to carry out the work. He could not say at the present time, but he could assure them that he would see that the representations they had made, as well as the contents of the large petition which had been presented to him the other day, were submitted to the Government for consideration at the time they were going through their railway proposals for the present year.

No. 25.

The Hon. Secretary, Clarence and New England Railway Committee, to The Secretary for Public Works.

Further respecting Railway Line, Grafton to Glen Innes.

Sir, Clarence and New England Railway Committee Rooms, Grafton, 2 March, 1880.

I have the honor, by direction of the Committee, to invite your attention to the petition forwarded to you on the 23rd September last, in reference to the subject of a line of railway from Grafton to New England, and also to an interview which a deputation from this district had with you on the 13th November last upon the same subject, and to request that this matter may be taken into your consideration, and to be informed whether it is the intention of the Government to include this line in the general railway policy to be submitted to Parliament this Session.

I have, &c.,
THOMAS PAGE,
Hon. Sec.

P.W.O., 15/3/80. End of month, 21/5/80. What reply should be given to Mr. Page?—J.R., 21/7/80. Railways, to resubmit when anything further is required.—J.R., 4/8/80. J.P., 5/8/80.

I have submitted this matter to the Cabinet. No decision, however, has been come to, nor will anything further be done till the Government are considering further railway projects, when this question will be again discussed.—J.L., 9/8/80.

No. 30.

Minute Paper.

Residents of Grafton—(Chas. H. Fawcett, M.P.)

URGING construction of a line of railway from the Clarence to the New England district

---

For Cabinet.—J.L., 13/10/80. Put with subsequent papers on the subject.—J.R., 6/1/83.

To the Honorable the Minister for Public Works, Sydney.

The Memorial of the undersigned, freeholders and other residents in the Clarence District, in public meeting assembled,—

RESPECTIVELY SHOWETH:—

That the districts of the Clarence, New England, and the Gwydir contain a population equal to about one-thirteenth of that of the whole Colony of New South Wales.

That the people of these districts have for upwards of ten years past urged upon successive administrations the necessity for proceeding with the construction of a railway from the Clarence River to the table-land of New England and the districts lying to the west thereof.

That,

That, in compliance with previous petitions, trial surveys and explorations have been carried out, proving the entire practicability of the proposal, and repeated promises have from time to time been made that this particular line of railway should be undertaken.

That those promises have not yet been fulfilled, to the grievous disappointment of the residents of these districts and the serious injury of local and national interests.

That since the agitation from this line of railway was first initiated, varied and powerful reasons have been submitted why this proposed line should be constructed more on national than local grounds.

That your memorialists desire to invite your attention to the many numerously-signed petitions and other papers that have been presented to yourself, your predecessors, and to Parliament upon this subject, and to submit that reasons more potent exist at the present time why a line of railway to connect the Clarence with the table-land of New England should be included in the Ministerial railway policy and submitted to the ensuing Session of Parliament.

That should this proposed railway not be proceeded with at an early date, your memorialists have great fears that the prosperity of the northern part of New South Wales will be seriously and permanently damaged, and its commercial connection with Sydney in a great measure severed.

Your memorialists, therefore, respectfully pray that you will take the premises into your most favourable consideration, and take such steps as may be necessary for including a proposal for a line of railway from the Clarence to New England in the Ministerial policy to be submitted to the first Session of Parliament, and that a sum of money sufficient to construct the first section (say) of 50 miles be placed upon the Estimates for the ensuing year to commence the work.

And your memorialists, as in duty bound, will ever pray.

Dated, at Grafton, this 23rd day of September, A.D. 1880.

W. J. HAWTHORNE, Mayor of Grafton,
Chairman at the Public Meeting.

Inform that I will have the memorial brought before the Government without delay.—J.L., 4/10/80. Mr. Fawcett, M.P., 4/10/80.

No. 32.

Extract from *The Sydney Morning Herald*, 21 January, 1881.

DEPUTATIONS—RAILWAY TO THE CLARENCE.

A LARGE deputation of Members of the Legislative Assembly, consisting of Messrs. See, Purves, H. H. Brown, J. Davies, C.M.G., H. Clarke, Farnell, Garvan, Myers, Proctor, Dillon, Carter, Ferguson, Fremlin, Burdekin, Fletcher, Kidd, Henson, O'Connor, E. Barton, Trickett, Fawcett, Murray, R. B. Smith, and Cameron, waited on the Secretary for Works (Mr. Lackey) yesterday, for the purpose of urging the immediate construction of a railway to connect the table-land of New England with the deep waters of the Clarence River.

Mr. See introduced the deputation, and said that they had attended in order to urge their claims for a line of railway from the table-land of New England to the ports of the Clarence River. The Government must be aware that there were a large number of steamers now trading to Grafton, which was 50 miles from the mouth of the river, thus giving a large extent of navigable waters; and as the Falls were to be cleared away, that would give them another 20 miles of navigation. This district was as rich in mineral, agricultural, and other resources as any other part of the Colony, and the expenditure of a sum of money in the construction of a railway would be a source of profit to the State, as well as have the effect of diverting a large amount of trade into its proper channel, which was now benefiting Queensland. He thought every Member of Parliament approved of the policy of constructing railways to the centres of population, so as to concentrate the trade to Sydney, and he did not think, in urging this scheme, that they were doing anything more than their duty to the people living in the neighbourhood. He quoted from a local newspaper the following list of exports from the district during 1880, which had been prepared by a gentleman who had carefully watched the statistics of the district for years:—Maize, sacks, 217,115; oysters, ditto, 1,424; bones and horns, ditto, 3,457; mineral ores, ditto, 31,005; ingots tin, 44,060; sugar, mats, 41,718; sugar, tons, 4,322; preserved meat, cases, 22,488; extract, ditto, 169; eggs, ditto, 1,969; wool, bales, 3,565; skins, bundles, 394; horses and cattle, 38; pigs, 1,371; poultry, coops, 1,019; hides, 19,656; tallow, hogsheads, 1,828; molasses, hogsheads, 2,495; spirits, hogsheads, 1,563; bananas, bunches, 145,840; sundries, packages, 3,496; spokes, 23,176; timber, feet, 587,131; piles and logs, 445; potatoes, sacks, 389; dried meat, sacks, 996; gold, parcels, 12; and also quoted the following:—"From the same source we gather that in 1880 no less than 4,719 saloon and 4,571 steerage passengers travelled by steamer to and from Sydney. From a return prepared by Mr. T. M'Kittrick, shipping agent for Messrs. Nipper and See's line of steamers at South Grafton, we find that during 1880 the enormous quantity of 35,556 packages of general merchandise were forwarded to the New England districts—an average of 125 tons per month—the whole of which has to be carried by horse and bullock teams; while an equally large quantity has been forwarded by Mr. P. Leyburn, South Grafton, agent for the C. and R.R.S.N. Company's steamers. So that the value of imports for New England, *via* Grafton, can be safely estimated at £1,000,000 sterling." This he thought quite sufficient to convince anyone that this line would be a profitable one. The principal portion of the existing trade, such as supplying storekeepers with their goods, was now effected by teams between the table-lands and Grafton; but this was a very tiresome and old-fashioned way of carrying on the business of the country, and he felt sure that the construction of this line would be one of the most paying to the Government, and would open up some of the most splendid country they possessed in the Colony. He did not advocate any particular line, leaving that more particularly to the Government as a matter of detail; but what he urged was that the Government should undertake a survey of the line, and place a sum on the Estimates for its construction.

Mr. Purves also desired to urge on the Government the claims of this portion of the Colony. It had often before been brought under their notice, and facts and figures had been adduced to show that the claims of this part of the Colony were deserving of serious consideration. He hoped the Government would see from the number of Members who had come on that deputation that their claims ought to be favourably

favourably considered. The construction of railways, he was glad to see, was being taken into consideration by the Government, and he hoped they would be pushed forward vigorously. The construction of this line would not only be of great benefit to the people living in the immediate districts concerned, but would be a national undertaking, because it would intercept the great amount of traffic now finding its way into the neighbouring Colony of Queensland. The day was rapidly approaching when main roads would be things of the past, when instead of constructing a main road they would at once construct a railway. Cheap communication with the sea would also open up much of the tin country, which was now unworkable on account of the heavy cost of sending the tin ore to Sydney. He hoped the Government would see their way clear to include this line in their railway policy, and that a commencement might very shortly be made with the line.

Mr. Fergusson also desired, as a representative from the district immediately adjoining the Clarence River, to urge upon the Government the desirableness of undertaking this work, and corroborated the statements of previous speakers as to the great value of the work, not only to the district, but to the Colony at large.

Mr. Fawcett said that his district might fairly be called the Garden of the Colony; but there was still room for a large population in it, which would be attracted if this line were made, as they would then have an outlet for their produce. He hoped that the Government would take the proper steps to have the necessary surveys made as soon as possible.

Mr. Murray endorsed the statements made by previous speakers, and pointed out that, although there might be a slight loss upon the line during the first year or two, this would in a very short time all be made up by the amount realised for the land that would at once be sold.

Messrs. Dillon, Proctor, Burdekin, and Henson also supported the object of the deputation, but brought no new arguments to bear upon the subject.

Mr. Farnell pointed out that every Government had been in favour of the construction of this line, the only question having been whether the time was opportune for its construction. He considered that the time had now arrived when this work ought to be carried out; and as a survey had already been made, he thought the Minister might very fairly lay the plans on the Table, and move the usual resolution authorising the construction of the work.

Mr. Lackey, in reply, said that the matter of the construction of a railway from Grafton to the table-lands of New England was not a new one at all. It had been under the consideration of various Governments, and large deputations had waited on different Governments asking for the construction of the line. To repeat the arguments so well used by so many members of the deputation in favour of the districts referred to would be simply going over ground which was admitted on all sides. It was well known that the character of the land on the Richmond as well as the Clarence was as rich as that of any part of the world. The question as presented to different Governments had not been whether or not there should be a railway constructed, but whether it should take precedence of other extensions; and it had been thought more desirable that the great trunk-lines to the south, west, and north should be pushed on before any great diversions were made from that policy. These trunk-lines now were being gone on with, and he did not think it would be a long time before they would be completed. He would remind the deputation that the proposal they were now making was to a certain extent initiating a new policy, and would not confine itself to the districts which had been named. They had other coast districts whose seaboard was contiguous to agricultural settlement and fertile land, which were likely to avail themselves of any conclusion the Government might come to. He might mention the southern district, where there was a fertile table-land, and the coast district of Bombala, and the township of Bega, Twofold Bay; and if a policy such as that now asked for were conceded they were sure to receive applications immediately for the purpose of connecting lands similarly situated with the coasts. He found that a survey was made some years ago from the Clarence River to the table-land of New England, which must have been more than a preliminary survey, because he had it that the line to be constructed would be a very difficult and expensive one. He would, however, give the deputation this promise—that he would take an opportunity of placing before the Government the representations they had made, and the reasons they had urged in favour of the proposals submitted, so that they might be considered at the very earliest moment the Government took into consideration the railway policy they were going to submit to Parliament.

The deputation then withdrew.

End of March, 1881. Resubmitted, 24/1/81.

No. 35.

The Premier to The Secretary for Public Works.

Minute for the Secretary for Public Works.

It was with much reluctance that I consented to the withdrawal of the estimate for the railway from Grafton to Tenterfield. The enormous cost of £2,400,000 for 131 miles of communication in a thinly-populated country alone weighed with me against the many prospective advantages of connecting the head of the Clarence River navigation by railway with the table-land of New England and the border districts between Tenterfield and Warwick. But I consider that connection so important to the future interests of the northern part of the Colony that I hope Mr. Lackey will at once give instructions for a further and thorough examination of the country to be made, to see if a cheaper line cannot be constructed. It may be that, irrespective of cost, the work, in view of the development of the capabilities of the northern river districts, ought to be carried out; but clearly, as a preliminary, we ought to spare no trouble to bring the cost down to the lowest estimate.

H.P.,
16/3/81.

Engineer-in-Chief for Railways has been instructed accordingly.—J.L., 17/3/81. J.W., 29/3/81.

No. 36.

No. 36.

Extract from the *Sydney Morning Herald*, 21 March, 1881.

GRAFTON.

A COPY of a minute sent by the Colonial Secretary to the Minister for Works, in reference to the Clarence and New England Railway, and said to have been distributed amongst the members for the district, has been published here, and has been the topic of discussion ever since. General surprise is expressed at the course taken by the Premier, who has expressed himself satisfied of the claims of these districts to railway communication, being compelled, even reluctantly, to consent to the line being withdrawn. There is no faith in the proposed conference of the members for the district resulting in any practical good, and the general belief is that the minute is only another attempt to pacify the Northern Members until the Government scheme is adopted. The disappointment becomes more acute after the receipt of every additional item of information in regard to the action of the Government. The monster meeting to consider the position has been convened by the Mayor for Tuesday night, in response to a numerously-signed requisition.

No. 37.

Telegram from The Mayor of Grafton to The Secretary for Public Works.

22 March, 1881.

I HAVE the honor, by direction of a public meeting of over 1,000 residents of Grafton, just held, to inform you that they have decided unanimously upon the following resolution:—"That this meeting has learned with surprise and indignation that the Ministry have at the last moment withdrawn from the Loan Estimates all provision for the construction of any line of railway connecting the Clarence and New England, notwithstanding the promises made by them to our Members to make such provision."

Railways.—J.R., B.C., 24/3/81. May be put by, I presume.—CH.A.G., 31/3/81.

No. 38.

Telegram from The Mayor of Grafton to The Secretary for Public Works.

25 March, 1881.

AT a meeting of principal residents of Grafton, held this day, it was resolved that no railway line to New England will be satisfactory to the people unless the terminus is at Grafton, and they therefore request that the survey party may be instructed to re-examine the route to Glen Innes, with a view to its adoption, as being the most satisfactory to the people and beneficial to the country.—(Signed) J. H. Munro, J. Rea, F. W. Chapman, E. C. Lewington, S. See, C. Dickey, D. W. Munro, H. Whitford, F. Layton, G. Foott, J. Newell, R. Page, S. C. Lyons.

No. 39.

Telegram from The Editor, *Glen Innes Examiner*, to The Premier.

25 March, 1881.

To talk of the railway costing £18,000 per mile is absurd. We have a bushman who is prepared to point out an inexpensive line. As surveyors have arrived, communicate to *Examiner* office. Would Government give bonus? Reply.

Forward to Engineer-in-Chief.—CH.A.G., B.C., 4/4/81. Under Secretary for Works.—J.W., (*per* W.H.Q.), B.C., 29/4/81.

No. 40.

Telegram from The Mayor of Glen Innes to The Secretary for Public Works.

26 March, 1881.

YOUR instructions to survey Tenterfield route only causing great uneasiness here and westward. No line but Grafton to Glen Innes would be serviceable to Inverell and other important towns in the west. Tenterfield to Inverell land barren and rocky. Reply.

Railways.—J.R., B.C., 29/3/81. Engineer-in-Chief. My instructions are to survey a line from Grafton to Tenterfield, which is now being proceeded with.—J.W., 5/4/81. Under Secretary, B.C.

If surveyor's report warrant it, other surveys may be made before survey party return. The policy of the Government is to construct line from Grafton to nearest point of table-land to Queensland, but if the line to Tenterfield be found too expensive it is possible that the Government might see its way to adopt another route. At all events, I would like to hear from Engineer-in-Chief on the subject. Mr. Palmer for information.—J.W., 20/4/81.

The surveyors now in the district are engaged upon a trial survey of the route suggested by Mr. Marcolini, between Grafton and Tenterfield, and they have been instructed to report to this office any suggestions of other routes that may be made to them, so that reference may be made to reports of routes already examined before further surveys are recommended. I think it will be advisable to complete the survey now in hand before anything else is done, and as the surveyors complete their separate lengths of this survey, they can examine, and afterwards survey, if necessary, other routes that may be pointed out.—H..P, 22/4/81. The Engineer-in-Chief.

Under Secretary for Works.—J.W. (*per* W.H.Q.), B.C., 29/4/81.

15

No. 42.

W. J. Fergusson, Esq., M.P., to The Secretary for Public Works.

Sir, 30 March, 1881.

I have the honor to enclose herewith telegram from the Mayor of Glen Innes, containing two resolutions in reference to the railway from the Clarence to Glen Innes and from Glen Innes, to Inverell.

I have, &c.,

WM. J. FERGUSSON.

Let Mr. Fergusson, M.P., be written to, acknowledging receipt of his communication.—J.S., 31/3/81. Railways.—J.R., B.C., 2/4/81. Mr. Quodling.—G.B., B.C., 6/4/81. J.W., 20/4/81. Under Secretary for Works, B.C.

[*Enclosure.*]

Telegram from The Mayor of Glen Innes to W. J. Fergusson, Esq., M.P.

30 March, 1881.

At a large and influential meeting held here last night, attended by residents from all parts of the electorate, it was unanimously resolved that you should respectfully place before the Honorable the Minister for Works the following resolutions: "That it is desirable in the best interests of the Colony that a railway should be constructed from the navigable water of the Clarence to the westward, via Glen Innes, this route being the greatest benefit to the greatest number,"—proposed by Edwd. Grover, Esq.; seconded by Alex. Rogers, Esq., J.P., and carried unanimously, amidst great excitement. Second resolution: "That it would be a great national and profitable undertaking to commence forthwith the construction of a railway from Glen Innes to Inverell and westward, thus placing the important town of Inverell and others in the west within access of railway communication on completion of Great Northern Railway to Glen Innes,"—proposed by Samuel W. Burridge, Esq., J.P.; seconded by Alderman Utz, and carried unanimously, with great excitement and cheering, and with much hope the Government will accede to this just demand.

No. 44.

Telegram from R. L. Murray, Esq., M.P., to The Secretary for Public Works.

22 April, 1881.

Will you instruct surveyors to survey line from Glen Innes to Inverell before their return from Grafton?

May be forwarded to Engineer-in-Chief.—Ch.A.G., B.C., 23/4/81. Under Secretary for Works.—W.H.Q. (for Engineer-in-Chief), B.C., 28/4/81. Please return. Inform W. J. Fergusson, Esq., M.P., and R. L. Murray, Esq., M.P., 30/4/81. Railways.—J.R., B.C., 30/4/81.

W. J. Fergusson, Esq., M.P., to The Secretary for Public Works.

21 April, 1881.

Can one of the Railway surveyors survey the line from Glen Innes to Inverell when finished with Grafton line?

Is there any objection to this being done?—J.S., 22/4/81. Engineer-in-Chief. No objection. Shall I give instructions to have this done?—J.W., 22/4/81. Yes.—J.S., 22/4/81. Mr. Palmer.—W.H.Q., 28/4/81.

Sir, Department of Public Works, Sydney, 30 April, 1881.

I am directed to acknowledge the receipt of your telegram of the 22nd instant, and in reply to inform you that, in accordance with the request therein contained, the Secretary for Public Works has issued instructions for the carrying out of a trial survey for a railway line between Glen Innes and Inverell.

I have, &c.,

R. L. Murray, Esq., M.P., Inverell. JOHN RAE.

Sir, Department of Public Works, Sydney, 30 April, 1881.

In reply to your telegram of the 21st instant, I am directed to inform you that, in compliance with the request therein contained, the Secretary for Public Works has issued instructions that a trial survey for a line of railway between Glen Innes and Inverell be carried out.

I have, &c.,

W. J. Fergusson, Esq., M.P., Glen Innes. JOHN RAE.

No. 45.

W. J. Fergusson, Esq., M.P., to The Secretary for Public Works.

Sir, 30 April, 1881.

I enclose a telegram, asking for a guide to meet Quinn at Grafton on the 16th May, to point out a route for railway. Will you cause instructions to be given for surveyor to accompany him?

I have, &c.,

W. J. FERGUSSON.

Quinn has been previously employed and paid to mark out a line, and I do not think it necessary to re-employ him.—J.W., 9/5/81. Under Secretary, B.C. Inform.—J.R., 11/5/81.

[*Enclosure.*]

Telegram from S. W. Burridge, Esq., to W. J. Fergusson, Esq., M.P.

29 April, 1881.

Quinn leaves to-morrow to mark out route. Will be in Grafton on 16th May to take surveyor back. Do not fail to get one appointed, that he may be ready to accompany Quinn back to Glen Innes.

No. 52.

Extracts.

From *The Evening News*, 21 June, 1881.

THE GRAFTON SUCCESS.

AN illustration of the proverb which teaches that perseverance and industry conquer all things is afforded in the case of the Grafton people. The inhabitants of the Clarence district strongly desire a railway passing through their territory. The want is a reasonable one, and should have been granted long ago. That it has not been is no fault of the residents of Grafton and its neighbourhood. If energy of purpose, and unceasing as well as intelligent representation, could have achieved the object in view it would have been accomplished. But, with an obstinacy which applied to other and more worthy purposes would have been highly creditable, the Government refused to see the matter in the necessary and more favourable light, and therefore the progress of the district has been retarded for want of a railway—or, more correctly speaking, because of the determination of the Ministry not to do justice to the inhabitants of one of the most important and rapidly progressive portions of New South Wales. Many efforts have been made, but hitherto unsuccessfully. When the last railway schedule was submitted to Parliament, the Premier announced that the Grafton and New England line had been originally included; but at the last moment it had been found necessary to eliminate it because of the great cost. In view of the character of some other lines that have been authorised, and in which the element of expense was not much considered, the excuse was rather lame; nor was the explanation deemed satisfactory by anybody. After such a rebuff some folks would have retired abashed from the contest. But the Grafton people are made of sterner stuff. Like the typical Briton, they don't know when they are beaten. They did not give way to despair, but with a full belief in the practical theology which teaches that Providence helps those who help themselves, determined to persevere and try again. As a matter of fact, they kept on trying, and have succeeded at last. The attempt to invite the Ministry bodily did not quite succeed. Nevertheless, the effort was not quite lost, for two Ministers, he of Public Instruction, and that other of Public Works, are at this moment doing a triumphal march through the rich and fertile territory of the Clarence and New England. "Everything comes to him who waits," saith the sage. The good people of Grafton have had, perforce, to wait for a railway. They have now got all, and more than they asked, or, at all events, the promise of it, which is the next best thing to it. In this case, at least, Ministerial promises will not, we venture to believe, be of the ordinary pie-crust order. A railway is wanted; the importance of the district warrants it, and it will pay. Under such circumstances the railway must be made. Sir John Robertson and Mr. Lackey have made a personal acquaintance with the district, and the latter, at all events, has seen the error of his and his colleagues' ways in not having given railway communication to such a lively, hospitable, and generally pleasing a community. He will correct the oversight as soon as possible. In short, Mr. Lackey has promised to fulfil all that has been asked of him, and what more can a Minister do? The pity of it all is that he did not make his visit some twelve months ago; he would have seen the same necessity then as now, while that which he has now promised would have been a year nearer of accomplishment. However, better late than never. If only half of what Mr. Lackey has promised is carried out within a reasonable time the Ministerial visit will have justified its inception and accomplished its mission. Sir John Robertson has had the opportunity of proving the advantages of the Public Instruction Act, at all events under his administration. How it has gathered to its fold all the stray lambs who were heretofore sporting the happy hours away in the gutter. Only about a thousand or so could be seen in the streets at one time, and therefore they must be going to school. A good many other remarkable things were mentioned by the genial old statesman, who is now engaged in the pleasant task of placating the good people of Grafton, and smoothing their ruffled feathers. The task could not have been entrusted to more capable or better hands. Among the good things the veteran Minister told his hearers was that Mr. Gladstone had been guilty of plagiarism, for the Irish Land Bill was almost a copy of his own Land Act of 1861. Perhaps the seemingly unreasonable opposition to Mr. Gladstone's Bill on the part of the Irish people is now accounted for. Sir John Robertson's Act was not an unmitigated success, and it is possible that some Irish land leaguer, with colonial experience, may have explained the matter to his colleagues, who object to repeating the experiment in respect to the land legislation of Ireland. Still, it will be admitted that it was not quite the right thing on the part of the Prime Minister of England to bodily appropriate the bright and personal ideas of our own Sir John. They are, it may be said, his sole property. No doubt Mr. Gladstone will hear of the matter again. In the meantime, the Ministerial visit has been a great success. In view of the part we have played in connection with the recognition of the claims of the people of Grafton and New England, we cannot be otherwise than sincerely glad of it, and we heartily congratulate the district on the measure of success that has attended their efforts.

From *The Sydney Morning Herald*, 18 June, 1881.

MINISTERIAL VISIT TO THE CLARENCE.

(By telegraph—from our own reporter.)

THIS morning the Ministers were waited upon by no less than eight deputations, the subjects brought under their notice being,—the proposed railway from the Clarence River to New England; removal of obstructions to the navigation of the river; water supply for Grafton; the Great Marlow Drainage Union; a new Public School at Carr's Creek; a Public School at Brushgrove; protection of the river bank at Brushgrove; and of the introduction of the principle of local option into the promised Licensing Act Amendment Bill. The deputations were introduced by Mr. John See, Member for Grafton, who, with Mr. J. M. Purves, Member for the Clarence, were present with the Ministers. Upon the subject of the railway the Mayor of Grafton said the people of the district knew as a matter of fact that the Government had intended to include the Clarence and New England Railway in their recent railway policy, but that they had thought it prudent to withdraw it for a time; and they understood that the matter was to be reconsidered before any other railway policy was submitted to Parliament. They did not, therefore, on this occasion, propose to speak upon the question in detail, but would abide by the decision of the Cabinet until the result of the surveys now being made was known and placed in the hands of the Ministers. The people of Grafton knew it was impossible for the Government to decide as to the best

best scheme to adopt; and it was quite probable that it would be necessary to examine other routes before the Ministers could come to any determination as to the proper railway to be constructed. They relied upon the competency of the Government engineers, and upon the gentlemen administering the Government to give this matter careful consideration, not as something local, but as something affecting the interests of the Colony at large. They did not wish to set up their claims for a local railway; they knew that when the Ministers dealt with a question like this they must look upon it from a national point of view, and from that point of view the deputation considered that the people of the Clarence and of New England were entitled to be considered. They were quite willing to leave the matter to the officers appointed by the Government to deal with it, and to the Government themselves as one which, from a national standpoint, affected the whole Colony; but they, at the same time, urged that additional effort would be made to complete the necessary surveys as soon as possible, so that the railway might be included in the next Railway Estimates submitted to Parliament by the Government. Other members of the deputation pointed out that the railway should be considered, not as a branch line, but as a main railway extending to and opening up the great western and north-western plains.

Sir John Robertson, in reply, advised the deputation to see that whenever the Government brought forward a project for this railway—Grafton, Tenterfield, or Armidale—they advocated the one line, and did not recommend different lines. There were plenty of people at the other end of the Colony who looked askance at this project, and unless the people of these districts went for one line they would get none.

Mr. Lackey also replied, and admitted that the subject was an important one, not alone to the Clarence and the table-land of New England, but important with regard to the interests of the Colony generally, because it was not now the immediate locality, but the public at large that benefited from the construction of railways. It would be impossible for the Government to be indifferent to the claims of the residents on this large and important river, or to the claims of those living westward of the Clarence on the table-land of New England. Their attention to the subject had been frequently called by the two Members for the district. He knew there had been some little irritation at the Government not including the estimate for the New England and Clarence Railway in the general Estimates submitted to Parliament last session, but he thought the Government had been entirely sincere in what they had done in this matter. At the time this question was being discussed by Cabinet they found the information at hand was too scanty to guide them in deciding upon the large estimate before them, and they felt it to be the better course to leave the matter over until more accurate surveys had been made, and more complete plans prepared. Since then the Government had been most active in endeavouring to obtain the necessary information. No less than four surveyors were at work between the Clarence River and the table-land, and he would give the deputation his assurance that no time would be lost in carrying out the work. He hoped that the result of the delay which had taken place would be the construction of the line at less cost than the original estimate, which was very large. No time would be lost, and the greatest possible energy would be shown in dealing with the question, believing, as he did, that the railway could not be confined to the people of these districts, but would form a part of the network of railways in this country upon which the prosperity of the people largely depended.

In replying to the other deputations the Ministers promised prompt and careful attention to the matters brought under their notice, with the object of doing, without delay, what the deputations desired. With regard to the works in progress at the entrance to the Clarence River Heads, Mr. Lackey said that arrangements had been made by which they would be carried on with much more expedition than had hitherto been the case, through the illness of the officer in charge of them for some time past. The deputation who referred to the principle of local option was from the Good Templars of the district, and they presented to the Ministers an address of welcome. The assurances given by Sir John Robertson and Mr. Lackey that the various wants of the people would be attended to, gave general satisfaction, and the Ministers were heartily applauded. At the termination of the interviews cheers were given for the Ministers and for the Members; and the visitors then walked round the town, inspected the public buildings, and received an address in the Court-house from the Magistrates.

No. 53.

The Mayor of Armidale to W. C. Proctor, Esq., M.P.

Dear Sir, Armidale, 15 July, 1881.

As requested by a public meeting, held in the Town Hall, on the 13th instant, I send you the resolutions unanimously passed *re* trial survey from Grafton to Armidale, and also to ask you to use your influence in obtaining same.

I am, &c.,
ALEXANDER RICHARDSON,
Mayor.

[*Enclosure.*]

1st Resolution,—
That, in the opinion of the meeting, it is highly desirable for the Government to cause a trial survey to be made between Armidale and Grafton.

2nd Resolution,—
That any line from Grafton should, from weighty and cogent reasons, come to Armidale.

3rd Resolution,—
That the Government be requested to cause trial surveys between Grafton and Armidale to be made with as little delay as possible.

The Hon. the Minister for Works, Sydney,—

Sir, 138, Pitt-street, 30 July, 1881.

I have the honor herewith to enclose a letter from the Mayor of Armidale, together with copies of resolutions passed at a public meeting at that place upon the subject of a trial survey for a railway between Grafton and New England.

I anticipate that there will be no objection to the reasonable request for a trial survey, seeing that it does not bind the Government to any definite action. But it might be as well to point out the very great probability of ultimately discovering a line between Grafton and Armidale which would in all the circumstances surrounding the case be deemed the best line from the deep waters of the Clarence to the table-land of New England. The

The line suggested, from Grafton to Armidale, would pass through and open for settlement a very large extent of land, which has been proved to be rich in minerals, and valuable timber and grazing and agricultural lands, unequalled by those on any other route.

This line, it is confidently believed, would be constructed at one-half the cost of a railway on any other of the proposed lines from Grafton to New England.

The gradients would be easier, the bridges and earthworks infinitely less costly, and material for construction more easily obtained than on any other route.

One of the chief objections to the other lines is the necessity of crossing the Dividing Range, which is avoided on the line from Grafton to Armidale.

The line would also afford easy access to the Kempsey, Nambucca, and Bellinger Rivers; and a line could be constructed at some future time from the Armidale line to Trial Bay, the distance not being more than about 70 miles.

The Armidale and Grafton line would also be a saving of distance of about 70 miles between Grafton and Sydney, as compared with the Glen Innes line.

There are other substantial reasons in support of the Grafton and Armidale line which, I think, it is at present unnecessary to mention, seeing that we only make the reasonable request of a trial survey, which will no doubt realise anticipations regarding costs, and justify the expenditure.

I have, &c.,
W. C. PROCTOR.

Railways.—J.R., B.C., 10/8/81. Forward to Engineer-in-Chief.—CH.A.G., B.C., 8/8/81.

Perhaps it will be better to wait until the completion of the present surveys to Glen Innes and Tenterfield before taking any steps to survey the line from Grafton to Armidale. The distance will be considerably more than to either of the other places named (Glen Innes and Tenterfield).—J.W., 12/8/81.

Under Secretary for Works, B.C., 13/8/81. Commissioner for Railways to see.—J.R., B.C., 13/8/81.

No. 55.

J. M. Purves, Esq., M.P., to The Secretary for Public Works.

Re Railway from Grafton to Glen Innes.

Sir, 88, Pitt-street, Sydney, 1 August, 1881.

Referring to the existing trial survey for the construction of a railway from Grafton to Glen Innes, I do myself the honor to suggest that with a view to a modification of the estimated expenditure, the same may be improved and worked up on the same basis as the Western line.

Trusting this will receive your favourable consideration.

I have, &c.,
JNO. M. PURVES.

Railways.—J.R., B.C., 4/8/81. Forwarded to Engineer-in-Chief.—CH.A.G., B.C., 8/8/81. The suggestion shall have every attention, but steep gradients should always be avoided when practicable.—J.W., 12/8/81. Inform.—J.L., 18/8/81. Railways.—J.R., B.C., 19/8/81.

No. 59.

J. See, Esq., M.P., to The Secretary for Public Works.

Dear Sir, Sydney, 18 October, 1881.

I have the honor to enclose a resolution unanimously carried at a late meeting of the Clarence and New England Railway Committee, held at Grafton, at which I was present.

I respectfully draw your careful attention to this matter, and also urge upon the Government the need there is that the surveys should be completed at once, in order that a sum of money may be placed on the Loan Estimates this Session for the construction of a line from Grafton to the table-land.

Will you kindly let me know what progress the surveyors have made, and all particulars you can in reference to this matter, and oblige.

Yours, &c.,
JOHN SEE.

Let Mr. See, M.P., be informed.—J.L., 19/10/81. Railways.—J.R., B.C., 21/10/81. The surveys are still going on, and when completed I will report.—J.W., 26/10/81. Under Secretary for Works.

Sir, C. and N.E. Railway Committee, Grafton, 11 October, 1881.

I have the honor, by direction of the above committee, to request that you would again urge upon the Government to push forward the trial surveys for a line of railway from Grafton to New England, in order that a line may be adopted, and provision made upon the Estimates during the present Session to defray the cost of its construction.

I have, &c.,
THOMAS DOYLE, Mayor,
Chairman.

John See, Esq., M.P., &c., Sydney.

Railways.—J.R., B.C., 29/10/81.

QUESTIONS AND ANSWERS.

Legislative Assembly, Friday, 21 October, 1881.

3.) RAILWAY FROM GLEN INNES TO INVERELL:—MR. MURRAY *asked* THE SECRETARY FOR PUBLIC WORKS,—Has the survey of railway line from Glen Innes to Inverell been commenced yet, and when is it likely the result will be known?

Mr. LACKEY answered,—The survey has just been commenced, and it will probably be completed in about three months.

Legislative

Legislative Assembly, Friday, 21 October, 1881.

(3) Mr. Murray *asked* The Secretary for Public Works.—Has the survey of railway line from Glen Innes to Inverell been commenced yet, and when is it likely the result will be known?

The survey has just been commenced, and it will probably be completed in about three months.—J.W. (*per* W.H.Q.), 21/10/81. Under Secretary for Works.

Legislative Assembly, Wednesday, 19 October, 1881.

(6.) Railway from Glen Innes to Tenterfield:—Mr. Fergusson *asked* The Secretary for Public Works,—When will tenders be called for railway works from Glen Innes to Tenterfield?

Mr. Lackey answered,—The working plans and sections are being prepared, and tenders will be invited for the works as early as practicable.

Legislative Assembly, Wednesday, 19 October, 1881.

(7.) Mr. Fergusson *asked* The Secretary for Public Works,—When will tenders be called for railway works from Glen Innes to Tenterfield?

The working plans and sections are being prepared, and tenders will be invited for the works as early as practicable.—J.W. (*per* W.H.Q.), 19/10/81. Under Secretary for Works.

Legislative Assembly, Tuesday, 30 August, 1881.

(6.) Railway from Glen Innes to Inverell:—Mr. Murray *asked* The Secretary for Public Works,—Have surveyors been instructed to survey the railway route from Glen Innes to Inverell; and, if so, when is it probable that the result of such survey will be known?

Mr. Lackey answered,—Instructions were given to the Engineer-in-Chief in April last for the survey of the route from Glen Innes to Inverell on the completion of the trial survey from Grafton to New England. The survey will be commenced in about a month:

Legislative Assembly, Tuesday, 30 August, 1881.

(6.) Mr. Murray *asked* The Secretary for Public Works,—Have surveyors been instructed to survey the railway route from Glen Innes to Inverell; and, if so, when is it probable that the result of such survey will be known?

Instructions were given to the Engineer-in-Chief in April last for the survey of the route from Glen Innes to Inverell on the completion of the trial survey from Grafton to New England. The survey will be commenced in about a month.—J.W., 30/8/81. Under Secretary.

Sir, Department of Public Works, Sydney, 29 October, 1881.

Referring to your letter of the 18th instant, on the subject of the trial survey from Grafton to the table-land, I am directed to inform you that the survey is still in progress, and so soon as it is completed a further communication will be made to you. I have, &c.,

John See, Esq., M.P. JOHN RAE.

No. 59A.

Extracts.

From *Sydney Morning Herald*, 6th December, 1881.

At a meeting of the Railway Committee, held to-day, a resolution was passed approving of the action of the Northern Members in taking exception to the omission by Government of all mention of the Clarence and New England railway. It was decided to hold a public meeting next Monday to petition Government to make provision this Session for a line of railway from Grafton to Central New England (Glen Innes); also to petition Parliament with the same object. Several speakers said they had heard on undoubted authority that the Engineer-in-Chief had plans and estimates prepared for the line, the cost not exceeding £14,000 per mile. Another speaker said that at the present time 300 tons of loading were at South Grafton waiting carriage to New England.

From the *Sydney Daily Telegraph*, 6th December.

At a special meeting of the Railway Committee, held this afternoon, the following resolutions were adopted:—1. "That this meeting heartily approves of the action taken by Messrs. See, Purves, Fergusson, Murray, Copeland, and other Members of Parliament, in taking exception to the omission by Government from the Ministerial policy this Session of the proposal for the construction of the Grafton and New England railway." 2. "That, in the opinion of this meeting, the Government should make provision during the present Session for the construction of a line of railway from Grafton to Central New England (Glen Innes), and that the Members for the Northern Districts be requested to promote the furtherance of this end by every possible means." 3. "That a public meeting be convened by the Chairman for Monday next for the purpose of adopting a petition to Government urging that provision be made this Session for the construction of a railway from Grafton to Glen Innes; that a second petition to Parliament in support of such a proposal be made; also that the Mayor (Mr. T. Page), Messrs. G. Foott, J. H. Munro, and S. See be appointed a sub-committee to draft petitions and prepare resolutions for a public meeting, and do any other acts that they shall consider calculated likely to contribute to the attainment of the object in view." 4. "That a copy of the foregoing resolutions be forwarded by the Chairman by the first post to Messrs. See, Purves, Fergusson, Murray, Copeland, and the other Members of the Assembly." The committee meeting was more largely and influentially attended than any for a long time past, and the only persons who voted against the resolution for the route to Glen Innes were Messrs. P. Marcolino, T. Shoveller, and W. Attwater. One speaker (Mr. S. See) stated that over 300 tons of merchandise were at Grafton awaiting carriage to Glen Innes and the neighbourhood, some of which had been there for over six months, independent of what was taken by over 170 teams now on the road.

No. 60.

J. M. Purves, Esq., M.P., to The Secretary for Public Works.

Re Railway from Grafton to Glen Innes.

Sir, Sydney, 8 December, 1881.

Referring to my letter of 1st August last in connection with the existing trial survey for the construction of the abovementioned railway, I would most respectfully and earnestly express a hope that the Government may be able to see their way to having it improved and worked up on some principle similar to that adopted as regards the western line, by which means a considerable reduction on the estimated expenditure may be effected, and the construction of the railway prove no extraordinary difficulty.

I understand that the surveyors engaged on Quinn's line have almost completed their work, and I desire that they may be sent at once to work up the present survey, especially at the part where it presents some little difficulty. I need hardly allude to the great want that at present exists for cheaper and more rapid carriage between that part of the table-land and the coast. That is self-evident from the quantity of supplies now lying at Grafton awaiting carriage, not taking into consideration the number of people who get their supplies from Brisbane. I am a director of a company that has just obtained a large quantity of iron from Brisbane, it being the cheaper and quicker route.

Respectfully asking for this most important matter your earnest and immediate consideration.

I have, &c.,

JNO. M. PURVES.

Forward to Engineering Department.—CH.A.G., B.C., 28/12/81. Everything suggested by Mr. Purves has been done, and the surveyors are at work on the length from South Grafton to Glen Innes.—J.W., 5/1/82.

No. 61..

Extract from Votes and Proceedings.

8 December, 1881.

(1.) GRAFTON AND NEW ENGLAND RAILWAY:—MR. FERGUSSON *asked* THE SECRETARY FOR PUBLIC WORKS,—If the Government have reconsidered the Grafton and New England Railway; if so, is it the intention of the Government to take action this session?

MR. LACKEY answered,—The Government will not be in a position to submit any proposal for this railway during the present Session.

No. 62.

J. See, Esq., M.P., to The Secretary for Public Works.

Sir, Sydney, 9 December, 1881.

I sincerely trust that you will recommend the Government to reconsider the matter of placing a sum of money upon the Loan Estimates for the purpose of constructing a line of railway from Grafton to Glen Innes.

There can be no doubt but that the line would pay, no matter how expensive the cost, as the trade between Grafton and the table-land is increasing daily, and already there is sufficient trade to pay the working expenses. If there was a railway the trade would be four or five times what it now is, because a very large quantity of stuff that is now sent to and from Brisbane would be shipped *via* Grafton. The importance of these Northern districts should not be overlooked. The output of tin is largely on the increase, and now represents fully half a million sterling per year. The wool trade is considerable and on the increase, and the stimulus that would be given to agriculture would be enormous, because in the district are some of the finest lands in Australia. Therefore, on commercial as well as national grounds, I strongly urge upon you to ask Parliament for the necessary loan this Session. I am sure the majority of the House would support it, and, if no better route is yet available, adopt the old one with alterations; and if before next year a cheaper route can be found, so much the better. It cannot, in my opinion, be a fatal reason because all the routes are not surveyed that we should not have the vote submitted, and it will in my humble opinion be quite competent and proper for the Government to recommend another route that the House may sanction it if found to be better than the one proposed.

There is an impression abroad that your Engineer-in-Chief is opposed to this line, and will do what he can to prevent its construction. If such is the case I hope the Government will act independently of his advice, and in view of the reputation the Government bears of being a "Railway Government," that they will undertake this important work this Session, and obtain the vote whilst Parliament is willing to grant it. Money cheap, and the necessities of the people demands it.

I have, &c.,

JOHN SEE.

Railways.—J.R., B.C., 13/12/81.

Sir, Department of Public Works, Sydney, 12 December, 1881.

Referring to your communication of the 9th instant on the subject of a line of railway from Grafton to New England, I am directed to inform you, after making surveys for a considerable time in different directions between the Clarence and the table-land, the route from Grafton to Glen Innes is considered the most eligible. Instructions have therefore been given to the surveyors now in the district to make a complete survey of this line.

Under these circumstances it will not be possible to place any sum of money on the Estimates for the present year, but plans will be prepared and ready to lay before Parliament during next Session.

I have, &c.,

John See, Esq., M.P. JOHN RAE.

Sir,

Sir, Department of Public Works, 12 December, 1881.

Referring to your communication without date, received this day, on the subject of a line of railway from Grafton to New England, I am directed to inform you that after making surveys for a considerable time in different directions between the Clarence and the table-land, the route from Grafton to Glen Innes is considered the most eligible. Instructions have, therefore, been given to the surveyors now in the district to make a complete survey of this line, and plans will be prepared and ready to lay before Parliament during next session.

I have, &c.,
JOHN RAE.

John See, Esq., M.P.

No. 66.

Extract from the *Sydney Morning Herald*, 16th December, 1881.

CLAIMS OF THE NEW ENGLAND DISTRICT FOR RAILWAY COMMUNICATION.

[From our own Correspondent.]

A RAILWAY meeting was held this evening at the Theatre Royal. The Mayor presided, and there was a large attendance. The theatre was crowded. After telegrams received from the district members had been read, a motion was submitted that the meeting terminate. An amendment was moved by Mr. J. H. Munro, seconded by Mr. D. Braham, that the following petition to the House of Assembly be adopted by this meeting, and signed by the Mayor as chairman, and forwarded by him to J. See, Esq., M.P., for presentation :—"To the honorable the Members of the Legislative Assembly of New South Wales. The petition of the residents of Grafton, in public meeting assembled,—Humbly showeth, That, for several years past the people of the Clarence and New England districts have urged upon successive Administrations, and upon Parliament, on national as well as on local grounds, that a railway should be constructed from the Clarence to New England. That in support of this demand voluminous statistics and other particulars have been submitted both to the Executive Government and to Parliament, setting forth the overwhelming claims of the large population, and the unlimited natural resources of these districts to consideration in the matter of railway construction. That so weighty have those claims been considered by various Administrations, that explorations of the country and trial surveys have been made at various points, one at least of which trial surveys, your petitioners are informed, is thoroughly practicable, and the estimated cost moderate, considering the enormous interest at stake, and in view of the future development of the resources of the districts of New England and the Clarence, and the increased settlement of population therein. That so important has this question been considered by successive Administrations that frequent and unconditional promises have been made that the railway from Grafton to New England should be undertaken. That the failure to fulfil the promise so made has led to a feeling of distrust and dissatisfaction in the minds of many people in respect to their treatment at the hands of the Government of New South Wales, and tends seriously to destroy all confidence in Ministerial utterances. That your petitioners submit that promises made to the people by the Executive Government, especially in respect of important public questions, should be faithfully carried out, if it is, as it should be, the desire to act justly to the people of all parts of the country, and so induce them to act with loyalty towards the Crown, and to have a firm reliance on the good faith of those entrusted with the administration of public affairs. That your petitioners fully expected, in accordance with previous promises, that the present session of Parliament would not be allowed to pass without provision being made for the construction of this much-needed and important railway line. Your petitioners have been assured that the Railway Department are prepared to recommend the adoption of a line of railway already surveyed from Grafton to Glen Innes, and they respectfully submit that under such circumstances to allow another year to pass without making provision for this line will be a great injustice to these northern districts as well as to the country generally, and go far to confirm the people in the opinion that the outlying districts of the Colony can expect but scant consideration at the hands of the central Government located at Sydney. That in addition to the reasons formerly urged in support of this claim, and which appear on the records of your honorable House, and before the Executive Government, your petitioners desire to submit that the time has arrived when provision should be made for the large and rapidly increasing population of the Clarence district being connected by the nearest and most practicable route with the railway system of the Colony. That your petitioners having learned with much satisfaction that such a route has been discovered, and that it has received the approval of the Railway Department, desire to submit that the construction of the line along that route should be no longer delayed. Your petitioners, therefore, humbly pray that you will take the premises into your most favourable consideration, and grant them such relief as to your honorable House may seem meet, and as will ensure the continued reliance of the people of these districts in the honour and justice of those entrusted with the administration of public affairs." The resolution was carried by an overwhelming majority, amidst loud applause.

No. 68.

Extract from Votes and Proceedings.

LEGISLATIVE ASSEMBLY, MONDAY, 19 DECEMBER, 1881.

6. RAILWAY FROM GRAFTON, *via* GLEN INNES, TO INVERELL :—Mr. Murray presented a Petition from James H. Hindmarsh, Chairman of a public meeting of residents of Inverell and District, in favour of the construction of a line of Railway from Grafton, *via* Glen Innes, to Inverell; and praying the House to take the matter into consideration.
Petition received.

No. 69.

Extract from the *Sydney Morning Herald*, 19th December, 1881.

THE document sent to the Legislative Assembly, by order of a public meeting, held at Grafton last Thursday, in regard to railway communication between the Clarence and New England, reads more like a remonstrance than a petition. It accuses the Administration of failing to fulfil an oft-repeated promise, hints

hints at a consequent "distrust and dissatisfaction in the minds of many people in respect to their treatment at the hands of the Government of New South Wales," which seems to imply that the Government of some other country has treated, or would treat, them better than their own has done; and it repeatedly impeaches the good faith of Ministers and their justice and impartiality. If such language were addressed to Parliament, the petition would be rejected on the ground of not being respectfully worded; but as the Government is not Parliament, but only a body of men enjoying for the present the confidence of Parliament, that objection may be held inapplicable. Still we fail to see what the petitioners can gain by the use of such censorious expressions. Last Session over seven and a half millions sterling were voted for railways all over the Colony, and the Government has lost no time in preparing the necessary plans, and getting them approved by Parliament. Grafton is left out, because the Government is not yet satisfied that a good practicable route has been discovered, to say nothing of the best route. On all hands it is agreed that a railway from the Clarence to New England will be difficult, and its working expenses heavy, on account of the length and steepness of the gradients. A few weeks or months expended in exploration may save a large first cost, and a still greater sum in easier conditions of traffic for the future. The line over the Blue Mountains was a triumph of engineering, but it is believed a much better route might have been found, and that the working costs of the present line could have been materially reduced if closer study had been given to the curves. Another such costly experiment over the New England Ranges should be avoided if possible, and the Government is not to be blamed for seeking adequate information before committing itself to a definite plan. That Grafton and Glen Innes, or at all events the Clarence and New England, will be connected by railway before long, is tolerably certain; but the residents themselves are not so absolutely agreed upon the best route as to be entitled to lecture everybody else for not instantly making up his mind.

No. 71.

Extract from the *Sydney Morning Herald*, 26th December, 1881.

NEW ENGLAND RAILWAY REQUIREMENTS.

[From our own Correspondent.]

Grafton.

THE following letter from the Premier, in reply to one addressed to him by Mr. See, Member for Grafton, appears in to-day's *Examiner*, together with other correspondence, *re* railway:—

"20 December, 1881.

"In reference to our several conversations on the subject of connecting the Clarence with the table-land of New England by railway, I am, as I have often stated, in favour of the work being done. It is now eight or nine years ago since I gave my assent to this proposal. My retirement from office sufficiently explains why I did not attempt to do what I had no power to do for some years, from 1874 to 1879. Since the present Ministry took office at the close of 1878, other works of national magnitude have engaged the attention of the Works Department, but the question of opening the far Northern districts by railway to the navigation of the Clarence River has not been neglected. All the preliminary work, which has been of an exceptionally difficult character, has, in fact, been gone through, and plans may now be prepared, and the proposal submitted to Parliament within a few months; but if the work itself has been one of unusual difficulty, consideration, of policy of exceptional weight have to be determined in connection with the Clarence railway. It will unquestionably compete with the Great Northern line for traffic, and in this respect will occupy an unprecedented position in our railway construction. No other line has been made which directly competes with a line already opened, and upon this arises the serious question of the railway being worked for some years at a heavy loss. I do not myself enter into these considerations with any feeling of doubt, but that your railway would be so far successful that in a very few years its benefits would fully justify the expenditure. I believe it would in an unprecedented degree contribute to the development of the resources of the rich districts which it would unite and bring together. I have, therefore, no hesitation in stating my opinion that provision ought to be made for the construction of this railway during next year.

"Yours, &c.,
HENRY PARKES."

No. 73.

Memo. from W. J. Fergusson, Esq., M.P., to The Secretary for Public Works.

Dear Mr. Lackey, Sydney, Friday, 1882.

I start for Glen Innes to-morrow night; will you let me have the latest information about the Grafton and Glen Innes railway; I am sure to be asked about it.

Can I get it by to-morrow morning?

And oblige, yours, &c.,
WM. J. FERGUSSON.

Four surveyors now in the Clarence district have had instructions to make a complete survey of the line from Grafton to Glen Innes as early as possible, and I believe some of them are now engaged upon this work.—J.W., 20/1/82. Inform Mr. Fergusson in these terms.—J.R., 20/1/82. See also Sir Henry's answer to Mr. Fergusson on Business Paper of 15th December, 1881.—J.R. Railways.—J.R., B.C., 20/1/82.

Sir, Department of Public Works, Sydney, 20 January, 1882.

Referring to your communication of this day's date, I am directed to inform you that four surveyors, now in the Clarence River district, have received instructions to make a complete survey of the line from Grafton to Glen Innes as early as possible, and it is believed that some of them are now engaged upon the work.

I have, &c.,
JOHN RAE.

W. J. Fergusson, Esq., M.P.

No. 74.

No. 74.

Telegram from W. J. Fergusson, Esq., M.P., to The Secretary for Public Works.

25 January, 1882.

Meeting to-night; will you wire me information promised last week about Grafton Railway progress?

Inform by telegram information sent to his address on Saturday, which, I presume, has reached him. State nature of information. Telegram sent that officers now in the Clarence River district had instructions to finish survey to Glen Innes.—27/1/82. Railways.—J.R., B.C., 28-31/1/82.

No. 78.

Extract from the *Sydney Morning Herald*, 25th March, 1882.

Railway Extension in the New England District.

[From our own Correspondent.]

Glen Innes.

The Railway Conference met this afternoon, presided over by the Mayor of Glen Innes, Mr. Edward Jones. There were fifteen delegates present, including Messrs. D. M'Rae (Furracabad), T. Bawden, J.P., S. W. Burridge, J.P., Alderman Utz, J. M. Munro, and Frank Norrie. Mr. Bawden delivered an exhaustive address, pointing out the immense superiority, in a national sense, of a line of railway from Grafton, *via* Glen Innes, to the West, over either a line from Grafton to Armidale, or Grafton to Tenterfield. The address was very much admired, and considered a pronounced answer to the opposition to the Grafton Glen Innes railway. It was unanimously agreed that the railway should start from Grafton, and travel *via* Glen Innes to the West. This resolution was proposed by Mr. S. See, and in seconding it Mr. S. W. Burridge particularly referred to the railway having been made from Grafton to Glen Innes in 100 miles, and costing £150,000 less than the previous estimate. It was agreed to form leagues in all the centres of population in central New England and the West. A memorial to be drawn up for presentation to the Government, and also a petition, asking the support of Parliament. A deputation, consisting of members of the Conference, will wait upon the Hon. A. Renwick to-morrow afternoon. The Conference agreed, further, that a deputation, composed of Sydney, Grafton, and New England residents, should wait upon the Government and present the memorial.

No. 82.

Minute by The Secretary for Public Works to The Under Secretary for Public Works.

25 April, 1882.

A deputation from Glen Innes will call on me on Friday at 12 to present a petition in favour of Glen Innes being the point to which the railway be taken.

J.L.

Get necessary information.—J.R., 25/4/82. Railways.—J.R., B.C., 25/4/82. Mr. Quodling.—J.B., B.C., 25/4/82. Mr. Palmer.—W.H.Q., 25/4/82. Information herewith.—H.P., 27/4/82.

No. 83.

Extract from the *Daily Telegraph*, 3rd May, 1882.

A member of the deputation which waited upon the Minister for Public Works on Friday to urge a speedy construction of the railway from Grafton to Glen Innes, and thence westward to Inverell, said that at the latter place wheat could be bought in large quantities at 4s. 6d. per bushel, whereas in Sydney it was worth 6s. 2d. Supposing this to be correct (for there is no reason to doubt the accuracy of the statement) we have what may be considered a very good explanation why the price of bread in Sydney should have been raised from 7d. to 8d. the loaf. We have been officially informed during the present year that there are 14,000,000 of acres on the table-lands of New England admirably adapted to the growth of wheat. Of these rather less than half a million are under cultivation. The question does not appear to be, at the present time, whether 4s. 6d. per bushel does or does not pay the free selector, but how he should get his produce more cheaply to a very much better market. At the present time he would have to cart his wheat 100 miles before it would reach the railway. If the line were open the entire distance from Glen Innes to Sydney, the Commissioner for Railways would bring it down for him and charge him 8d. per bushel. It seems needless to point out how the difference between 8d. per bushel and 2s. 2d. would stimulate production, and help to avoid the expenditure of the half million per annum which we pay to Victoria, South Australia, and New Zealand for breadstuffs. The 2s. 2d., let it be observed, is a price for carriage that has to be paid irrespective of the value of wheat per bushel. The cultivators have at present nearly half a million acres under crop, which must produce a much larger amount than is required for local consumption. There they scarcely know what to do with wheat when it is grown. Carriage by dray, always costly, has been rendered almost impossible by drought. Here there is a brisk demand for it at what should be a highly remunerative rate. The only cure for this state of things is an extension of the railway.

If the deputation did not know beforehand the nature of the reply that would be given by Mr. Lackey its members cannot have bestowed much attention upon the course of passing events. As soon as the preliminary surveys are completed the Government will be prepared to recommend to Parliament the route that should be adopted. It is now nearly two years since the trial surveys, in what appeared to be the hottest of haste, were ordered. They are not completed yet, and if they were the difficulties of the farmers would be a good way from the end. Before the Commissioner can bring their wheat to Sydney the extension from Homebush to Waratah has to be carried out. It is in a much forwarder stage than

than the line from Grafton to Glen Innes, because the money was voted long ago. But how does it stand? The surveys from the Hawkesbury to Waratah have yet to be completed. The break between Newcastle and Sydney is almost as fatal to the northern wheat-growers as the dray carriage from the table-lands of New England to the Great Northern railway. What appears to be one cause of delay is that the terminus of the line has not been determined at either end. No doubt the people of Grafton would like the line to begin with them. At Ballina and the Richmond River they may be credited with the same intentions. But this has nothing whatever to do with a line from Inverell to Glen Innes, which, if it were now commenced, might be in readiness for use as soon as the Great Northern line shall be carried to the latter place. The difficulties on the route from Grafton to Glen Innes have been so great that surveys have been made of a line from Richmond River to Tenterfield. However desirable it may be that a railway should be made from the coast at Grafton or the Richmond to Glen Innes or Tenterfield, it seems very much more important that farmers should be able to profitably bring under cultivation the 14,000,000 of acres in the New England district, which all accounts agree are so admirably adapted for wheat-growing.

It is not very long since the members of the deputation had the opportunity of stating their case to a Minister while he was on the spot. Evidently they have faith in the old maxim of "Line upon line, and precept upon precept." So has the Minister. When a long-suffering deputation reminded him that there did seem to be delay in constructing the extension of the northern railway, there was the stereotyped reply. The Department seems to be in a chronic state of "considering" and "surveying." Instead of these we want railways and other much-needed public works. The case of the farmers, forced to sell their wheat at least one-third under its value, is also that of the miners. Nature has been singularly bountiful in the district, but the Government as yet has done very little for it. There is mineral ore of various kinds in great abundance, but means for transit are sadly needed. Even the difficulty that has had to be encountered in the trial surveys is proof of this. Dr. Renwick's party, when on the late Ministerial tour, found the road a terribly rough one. What, then, must it be for the conveyance of ore and wheat? Nearly impassable is the only correct description that can be returned. A little more vigour, strength, and determination seems to be required in the Survey Department.

No. 84.

Minute by the Engineer-in-Chief to The Secretary for Public Works.

Department of Public Works, Railway Branch, Engineer-in-Chief's Office,
Sydney, 28 April, 1882.

Subject:—Trial Survey—South Grafton to Glen Innes.

THE amended trial surveys between South Grafton and Glen Innes are well advanced. Every effort is being made to reduce the enormous earthwork quantities as shown on the section of the original survey, and also to reduce the distance from Grafton to a junction with the Northern Railway near Glen Innes. The country throughout is very rough, and a great deal of careful surveying must yet be done before an accurate estimate can be made.

I think this route will, on the completion of the surveys, be shown to be the least costly of any yet surveyed, and will certainly be much shorter than any other between Grafton and the Northern line. A trial survey has lately been completed from Glen Innes to Inverell, in continuation of the survey from the coast, by which the distance from Grafton to Inverell is shown to be about 155 miles.

JOHN WHITTON.

(*Per* W.H.Q.)

Forward copy to Mr. See, M.P., at once.—J.R., 28/4/82. Railways.—J.R., B.C., 28–29/4/82. A trial survey is being made from Tabulam to Tenterfield, also from Byron Bay to Tabulam, both of which will be completed about the same time as survey from Grafton to Glen Innes.—H.P., 28/4/82.

No. 85.

Extract from the *Sydney Morning Herald*, 29th April, 1882.

THE PROPOSED NEW ENGLAND RAILWAY.

A DEPUTATION, consisting of Messrs. See, Murray, and Fergusson, Ms.L.A., waited upon the Minister for Public Works yesterday for the purpose of urging the construction of a line of railway from Grafton to the table-land of New England.

Mr. SEE presented a memorial which had been agreed to at a conference held at Glen Innes some time ago. The memorial urged the Government to submit a vote during the ensuing Session for the construction of the first section of the line. He was aware that the Government were having surveys made, and he was quite prepared to repose every confidence in the Government in reference to the construction of this line. He would, therefore, content himself with submitting the memorial, and expressing the strong hope that the Government would see their way to propose a sum during the ensuing Session to meet the cost of constructing the first section.

Mr. MURRAY said the subject of the construction of this line, and the splendid resources of the magnificent district which it would open up, had already been fully dealt with by deputation after deputation, and the Minister was no doubt quite as fully cognisant of all phases of the question as any member of the deputation. He gave the project his warm support, and as an illustration of the benefits that would probably accrue to the people of Sydney by the increased facilities for communication with the northern districts, mentioned that at the present moment wheat was selling at 6s. 8d. in Sydney and 4s. 6d. in Inverell.

Mr. FERGUSSON hoped that the Government would not allow the next Session to pass over without some definite steps being taken to have this work carried out.

Mr. LACKEY said this matter had been under the consideration of the Government for some time, and it was a great mistake to suppose that any unnecessary delay had taken place or that any promises had been broken. The Government had promised to construct a railway from Grafton to the table-land of New England, and they had taken all the steps they could to carry that promise into effect. In connection with a work of that kind the strictest examination of the route was needed, and continuous surveys had

to

to be made of the different routes. The Government had not yet decided which route they would recommend to Parliament, nor indeed was he himself in a position to recommend to the Cabinet the adoption of any particular route. In order that the deputation might know what had been done, he would read the latest report furnished by Mr. Whitton in connection with this work. Mr. Whitton wrote:—"The amended trial surveys between South Grafton and Glen Innes are well advanced, and every effort is being made to reduce the enormous earthwork quantities as shown on the section of the original survey, and also to reduce the distance from Grafton to a junction with the Northern Railway near Glen Innes. The country throughout is very rough, and a great deal of careful surveying must yet be done before an accurate survey can be made. I think the route will, on the completion of the surveys, be shown to be the least costly of any yet surveyed, and will certainly be much shorter than any other between Grafton and the Northern line. A trial survey has lately been completed from Glen Innes to Inverell, in continuation of the survey from the coast, by which the distance from Grafton to Inverell is shown to be about 155 miles." He had also ascertained that a trial survey was being made from Tabulam to Tenterfield, and another from Byron Bay to Tabulam, both of which would be completed about the same time as the survey from Grafton to Glen Innes. He had given instructions to have these surveys carried out as quickly as possible. The Government were anxious to have the work completed as soon as possible, but the country through which the line would have to pass was a difficult country, and it was very necessary to have it accurately surveyed. There were three sets of surveyors on the different lines, with imperative instructions to get on as fast as they possibly could to enable the Government to recommend the adoption of the least expensive and most practicable route. He was as anxious as the residents of the district that the work should be carried on speedily, so that the people might have the undoubtedly great advantage of railway communication. He would see that every exertion was used with the view of enabling the Government to ask Parliament next Session for its concurrence in the expenditure for this line of railway.

No. 86.

J. See, Esq., M.P., to The Secretary for Public Works.

Sir, Sydney, 17 May, 1882.

In connection with the surveys for the proposed line of railway from Grafton to the table-land of New England, I respectfully request that a survey may be made of a line into North Grafton from Glen Innes, or from any point of the line now being surveyed that the surveyors may deem most expedient.

I shall feel obliged if you will concur in this request, and let me have your decision in a day or two, and oblige

Yours, &c.,

JOHN SEE.

Inform Mr. See that three railway surveyors will be instructed to examine the route suggested in his letter, with a view to a survey being made.—J.L., 19/5/82. Railways.—J.R., B.C., 19/5/82. Forward to Engineer-in-Chief.—CH.A.G., B.C., 26/5/82. Mr. Palmer.—W.H.Q., 29/5/82. I will attend to this when at Grafton, probably in about a fortnight.—H.P., 12/6/82. Mr. Palmer.—W.H.Q., 5/7/82.

The present survey from South Grafton to Glen Innes commences on the river bank, immediately opposite to North Grafton. If the railway should be made from North Grafton to Glen Innes, a site for the terminus would have to be selected in North Grafton, and the line as surveyed at South Grafton should be produced across the river to such terminus. This will hardly require a survey, as the cost of crossing the Clarence, and the extra expense of carrying the line through North Grafton, might be allowed for in making the estimates of the different proposed routes.—H.P., 21/7/82. The Engineer-in-Chief.

J.W.—28/7/82.

Sir, Department of Public Works, Sydney, 19 May, 1882.

In compliance with the request contained in your letter of the 17th instant, I am directed to inform you that the surveyors now engaged on the trial survey for a railway line from Grafton to the New England Table-land will be instructed to examine and report upon the locality suggested, with the view to a survey being made of a trial line from the line above referred to into North Grafton.

I have, &c.,

John See, Esq., M.P. JOHN RAE.

No. 92.

Extract from the *Daily Telegraph*, 19 July, 1882.

INVERELL.

[From our Correspondent.]

WE have had stirring times here lately. The excitement in connection with the great railway question was intense, and resulted in the largest meeting ever held in Inverell. Some time ago a branch of the Clarence-New England Railway League was formed in town. Two of our leading citizens were appointed joint secretaries, and numerous meetings were held. The result was that large numbers, representing all classes, joined the League. A monster meeting was advertised for the 6th instant. It was anticipated that Mr. Murray, our representative, and several other Members of Parliament, would be present. Owing to the postponement of the opening of the railway to Uralla, his fellow-member could not come to Inverell, but Mr. Murray fulfilled his promise, and, with several delegates from Glen Innes, took part in the meeting. The business transacted at that meeting was simple but important. The first resolution set forth was the necessity for a railway from Grafton *via* Glen Innes to the table-land of New England, and thence westward, and referred to the rich and inexhaustible tracts of pastoral, agricultural, and mineral land along the proposed line; also, to the necessity of at once constructing a line from Glen Innes to Inverell. This was ably moved by Mr. Mayne, our late mayor, supported by several speakers, and carried with enthusiasm. A petition to be forwarded to Mr. Murray, for presentation to Parliament, was next

 adopted.

adopted. This was a long and exhaustive document, conclusively showing the claims of this part of New England. Among other things it pointed out that the engineering difficulties had been over-estimated—that a zigzag line would not be required, and that the cost would not exceed per mile that of the extension of the Great Northern line from Tamworth, that the line would develop over 1,000,000 acres of the finest wheat land in Australia, capable of producing wheat sufficient to supply the Colony; that, in addition to the carriage of wheat, there would be tin—6,500 tons of which were produced last year in the district—wool, wine, &c.; that the proposed line was the only line which would properly tap the northern part of the Colony, which could not be accomplished by any deviation north to Tenterfield or south to Armidale, from Grafton. The question has taken strong hold of the public mind, and in the various centres, where branches of the Railway League have been formed, all are working harmoniously. A monster meeting will be held in Grafton on Tuesday, 18th instant. Delegates from Inverell and Glen Innes are now on their way thither.

No. 93.

Extracts.

[From the *Daily Telegraph*, 20 July, 1882.]

THE NEW ENGLAND RAILWAY.—LARGE MEETING AT GRAFTON.

ONE of the largest public meetings ever held in Grafton in connection with the agitation for a railway from Grafton to New England took place here last night in the Theatre Royal.

Mr. J. MAYNE, of Inverell, in an effective speech, showed the importance of opening the western country by a railway from Grafton, and quoted official statistics fully bearing out his statements.

Mr. R. LEWIS, of Glen Innes, observed that, although a line to Tenterfield would be more advantageous to him, still he advocated a central line through New England. He refuted the statements recently made by the Tenterfield delegates in reference to the relative importance of Tenterfield and other towns to the west of Grafton.

Mr. DODD, of Glen Innes, urged the residents to be united, so that the Government should have no excuse for postponing the construction of this long-promised line.

Messrs. S. SEE, J. H. MUNRO, and J. BOWDEN also spoke in defence of the action adopted at the recent conference at Glen Innes, and showed that advantage had been taked by the Tenterfield delegates of the feeling in Grafton as to the site of the terminus, in order to secure votes in favour of the Tenterfield route. Mr. Bowden proved by statistics that last year nearly £65,000 were paid for carriage upon the Glen Innes road.

Mr. G. FOOT proposed—"That this meeting approves of the construction of a line of railway from Grafton to the west by the most direct and practicable route as that which will conduce most successfully to the prosperity of these districts and the Colony generally."

Mr. J. PAGE seconded the motion.

Mr. H. MAURICE suggested that the words "direct and" be omitted from the resolution.

This proposal was seconded by Mr. BOWDEN and accepted by the mover and seconder. The motion was then put in its amended form and carried almost unanimously.

Votes of thanks having been passed to the Glen Innes and Inverell delegates, and the chairman, the meeting terminated.

The proceedings were frequently interrupted by the unruly conduct of about forty lads and a few persons of maturer years, whose action was condemned by the advocates of both routes.

In the course of the evening the Chairman read a telegram from Mr. F. Utz, a large miller at Glen Innes, announcing that he had just built a mill to grind 100,000 bushels of wheat per annum, and that last year he alone received 500 tons of general merchandise from Sydney by way of Grafton.

[From the *Sydney Morning Herald*, 20 July, 1882.]

COUNTRY NEWS.

[From our own correspondent.]

Grafton, Wednesday.

A RAILWAY meeting was held last night, which did not terminate until 11 o'clock. The early part of the evening's proceedings was marked by very unseemly interruptions from a number of boys, led on, it is said, by a few adults. The speakers subsequently received something like a fair hearing. The last speakers were Messrs. J. H. Munro, T. Bawden, G. Foott, J. Page, H. Maurice, and H. Moore, of Inverell. Mr. Foott moved, and Mr. Page seconded, the following motion:—"That this meeting approves of the construction of a line of railway from Grafton to the west by the most direct and practicable route, or that which will conduce most successfully to the prosperity of those districts and the Colony generally." After discussion, Mr. Maurice moved an amendment to omit the words "direct and." This was seconded by Mr. Bawden, who said he did so in the interests of unity. The mover and seconder withdrew their original motion, and the amendment was substituted and carried unanimously. A vote of thanks was accorded to the delegates. Fully 600 people were present. The Inverell and Glen Innes delegates were taken down the river to-day for a trip, and inspected the sugar-mills, which are just beginning to work.

[From the *Sydney Morning Herald*, 5 July, 1882.]

IMPORTANT RAILWAY MEETING AT GRAFTON.

[From our own correspondent.]

ONE of the largest public meetings ever held in Grafton assembled last evening in the Theatre Royal. Addresses were delivered by Messrs. Lee and Whereat, delegates from Tenterfield, advocating the construction of a railway from Grafton *via* Tenterfield in preference to one *via* Glen Innes. The theatre was packed in all parts, it being estimated that from 600 to 700 people were present. Mr. W. Kinnear was appointed Chairman. Delegates from Casino, Mr. H. J. Simpson, Mayor, and Mr. F. G. Crouch, were also present. An apology was read from Lismore delegates, the Mayor, and Dr. Bernstein. Messrs. Lee

Lee and Whereat made speeches similar in effect to those already delivered at Casino and Lismore, maintaining that the line *via* Tenterfield would have the easiest gradients, be the cheapest in construction, and the best on broad national grounds, as calculated to support a large population. The speakers drew comparisons between the rival routes to Glen Innes, to show that the latter could not compare with the other. They said they advocated the line with Grafton terminus, and no other, and the people of the Richmond River, in the most unselfish manner, agreed to support them. They now asked the people of Grafton to join them in demanding the only line which could be got without difficulty. They said the question must soon be definitely settled in Parliament, and made a strong appeal to the people of North Grafton not to accept the line to Glen Innes, which would leave the terminus at South Grafton. They condemned the action of the Grafton delegates at the Glen Innes conference, and replied specially to an address delivered there by Mr. Bawden. They said the Conference should have been held on neutral ground, such as Grafton or Tenterfield. They could not send delegates to Glen Innes, where they would have been swamped by numbers put in to outvote them. They asserted that, notwithstanding statements emanating from Glen Innes, Tenterfield was a richer agricultural district than Glen Innes. Mr. Whereat said he ground more wheat in his mill at Tenterfield in three months than went through all the Glen Innes mills in a year, besides his three other flour-mills. The Tenterfield delegates got a very good hearing, although they were interrupted at times. Messrs. Simpson and Crouch followed with short addresses, admitting the justice of the claims of the Grafton terminus line, and advocating the Tenterfield route, which would permit the Richmond River to participate eventually in the benefits by a branch line from Tabulam. A resolution was then moved by Mr. H. Maurice, J.P., and seconded by Mr. W. Hann, "That, having heard the railway scheme from North Grafton to Tenterfield fully explained by the delegates from Tenterfield and Richmond River, this meeting is of opinion that it is the only one of a national character which has been proposed for connecting the table-land of New England with the Clarence River, and is also the best suited to promote the interests of people in the Clarence district; and it therefore pledges itself to co-operate with Tenterfield and the Richmond River in their endeavours to secure its adoption by the Government." The motion was supported by the Hon. E. D. Ogilvie, M.L.C., who said that at one time he had advocated that the railway ought to go from Tenterfield to the nearest point of the Clarence at Lawrence, because he thought towns should come to railways, not railways to towns. He freely admitted he had now changed his opinion, because he saw such important interests centre at Grafton as could not be passed over. He saw, also, that the divided agitation was weakening the cause, and would give the Government an opportunity to shirk the railway altogether. He was convinced now that if they got the railway it must be from North Grafton. With that conviction he joined the Tenterfield League delegates. It had been hinted that he was only supporting the line to Tenterfield to get it to Lawrence, but he appealed to the two delegates present if he had not always, as now, advocated the terminus at North Grafton, and no other. He now stood before them all, and stated publicly here that he would advocate the North Grafton route and no other, and he was not a man to go back upon his word. It had also been stated that he supported the line because of the large quantity of land he had there. He had always before advocated the line down the valley of the Richmond, not coming near his property, and it now seemed that there was a concensus of opinion that the line should come to the valley of the Clarence. It had been urged that the Government should not be interfered with in the choice of line. This would have been the proper course if adhered to, but when they found that others did not do so, he thought they should keep silent no longer, particularly as the line which was not the best was being forced on the country. In reply to an interjected remark that he held all the best land, he said that railways had been made in other countries through purchased land. It mattered not whether they went through public or private land, provided they went through good land which would be cultivated and support a population. The land bought from him would be as good as from anyone else. The speaker was often interrupted by uncomplimentary remarks, and he told the meeting he would stay until it had heard him. He concluded amidst applause and cries of disapprobation. The motion was then submitted, and carried by a large majority. Mr. E. Hockey moved the adoption of a petition, to be signed by representatives of the Clarence, Richmond, and New England, and presented to Parliament, in favour of this line. It was seconded by Mr. W. Attwater and carried. The Mayor made a few remarks complaining of the delegates having gone out of their way to ridicule South Grafton, which was entirely uncalled for. A vote of thanks to the chairman and cheers for the Queen and the delegates concluded the proceedings, which did not terminate until 11 o'clock.

[From the *Sydney Morning Herald*, 7 July, 1882.]

RAILWAY EXTENSION IN THE NEW ENGLAND DISTRICT.

[From our own Correspondent.]

THE largest, most influential, and unanimous meeting ever held in Inverell, took place this afternoon, in the Masonic Hall. Mr. R. L. Murray, M.P., four delegates from Glen Innes, and residents from all parts of the district attended. The first resolution was moved by Mr. Mayne, seconded by Mr. Gibson, and supported by Messrs. Burridge (Glen Innes), Mr. Murray, M.P., and others, as follows:—"That, in the interests of this Colony it is necessary at once to construct a line of railway from Grafton to the inexhaustibly rich agricultural, pastoral, and mining lands stretching from Glen Innes, Inverell, and thence westward." It was next moved by Mr. G. Woods, seconded by Mr. W. Gihome,—"That a Petition adopted and presented to Parliament, embodying the following facts:—That the line, to be of any benefit to Inverell district, must come direct from Glen Innes, and any deviation north to Tenterfield or south to Armidale would be opposed to our best interests, as by recent trial surveys a line *via* Glen Innes would be under 140 miles, whilst *via* Tenterfield would be about 220; that this district could more than supply the requirements of this Colony in breadstuffs, as one million acres of magnificent, rich lands could be laid under cultivation; that the portion under wheat for years past yielded an average of 20 bushels. The line would tap the great tin-mines, which produced last year 6,500 tons of ore, valued in Sydney at £400,000. Hence the urgent necessity of at once constructing the section from Glen Innes to Inverell." The resolutions were unanimously carried, and the Petition was signed by all present. Thanks to the delegates, and to the Mayor for presiding, closed a most harmonious meeting. Mr. Murray, M.P., arrived last night, and was cordially received. He addressed the electors to-night.

No. 95.

The Glen Innes Branch of the Grafton and Western Railway League to The Commissioner for Railways.

[*Diagram A.*]

With the compliments of the Glen Innes Branch of the Grafton and Western Railway League.

Seen.—Ch.A.G., 25/8/82.

No. 98.

Minute by The Secretary for Public Works.

24 March, 1882.

Railway—Grafton to Glen Innes. Get what information Mr. Whitton has, and give Mr. See, M.P. He leaves for Grafton on Saturday next. J.L.

Mr. Rae. Mr. Whitton.—W.H. (for U.S.), B.C., 25/3/82.

Trial surveys of various routes recommended by residents of the Clarence district as likely to prove easier than those chosen by the Department have been made, and have been found to be impracticable. The routes originally surveyed by the Department, viz., from South Grafton to Glen Innes, and from Lawrence to Tabulam and Tenterfield, are now being resurveyed, adopting curves of smaller radii and steeper grades, with a view of reducing the estimates, and an additional route is being surveyed from Byron Bay to Tabulam. These surveys I expect to be completed in about four months.—H.P., 27/3/82. The Engineer-in-Chief.

Under Secretary for Works.—W.H.Q. (for Engineer-in-Chief), B.C., 27/3/82. Railways.—J.R., B.C., 27/3/82.

No. 104.

Extracts from Votes and Proceedings.

Legislative Assembly, Wednesday, 30th May, 1883.

(22.) Grafton and Glen Innes Railway:—Mr. Purves asked the Secretary for Public Works,—

(1.) Have the surveys been completed of the Grafton and Glen Innes Railway Line, and of the Tenterfield and Grafton Line?

(2.) Have the plans, sections, and specifications of the above lines been completed; if not, when will they be finished?

(3.) Will the Government next Session submit a proposal to construct a line of railway from the Clarence to New England.

Mr. Wright answered,—

(1.) Yes.

(2.) The plans and sections of both lines are now in course of preparation, and will probably be completed by the end of June.

(3.) The railway policy of the Government will be considered during the recess.

No. 120.

Extracts.

[From the *Evening News*, 9 October, 1888.]

The Glen Innes–Inverell Railway.

To the Editor.

Sir,—On the advent of the assembling of Parliament it may not be out of place for one who knows the New England district, as well as perhaps any person, to express his views on the question of the rival lines for the construction of the railway to that criminally long-neglected town of Inverell, and the magnificent and unequalled district of which it is the capital; the hope of the writer being that Members of the House will compel the Government to include in its proposal a line that will pay interest on its cost, and develop the resources of a district which is not surpassed—if it is equalled—in Australia. Unfortunately for Inverell, there are no fewer than three proposals for its railway, from as many different points. Commencing with the Uralla proposal, I cannot for a moment suppose that the Ministry is serious in giving this line any consideration whatever. After leaving Uralla, with the exception of small areas on the frontages of the creeks, or in the gullies, the line would pass through most wretched poor country, wholly unfit to support population, and would only touch good farming land when it reached Inverell. The sole recommendation of this line is that it would pass through the tin-mines and Tingha, 16 miles from Inverell. The next proposal is to make the Mother of Ducks the starting-point for the Inverell line. Well, this line would pass through excellent land nearly all the way. Then comes the original proposal, Glen Innes to Inverell; and this line would pass through land of exceptional richness from end to end—land capable of maintaining in happiness and prosperity half the present population of the Colony. Besides, this line would fully meet the wishes of both Inverell and Glen Innes, and further, it

has

has been permanently surveyed, and actually approved by Parliament. Then again, it would form a strong link in that great chain which must, in the early future, connect Grafton—the natural seaport—with the practically limitless country, of surpassing excellence, to the westward. Why then, in the name of all common honesty, is the construction of a line such as this delayed? Fifteen years ago agitation was commenced for the Grafton-Inverell line, with good prospects of early success. Places that then had scarcely a name have long since been connected with the outer world by rail; and the line to Kiama, running parallel with the ocean, was opened only to-day. Lines have been made that do not pay even working expenses, as the Hay line; yet such a district as Inverell is neglected. Surely there is more in this than the public is aware of. It may be that there is a good deal of underground engineering going on somewhere. Armidale (represented by a Minister and an ex-Minister) is most anxious that the Inverell line should start from that poking little place "the Mother of Ducks," in order to cut off the large and important town of Glen Innes from being the junction, and so, in a large measure, benefit itself by injuring a rival township. Surely there is patriotism enough in the House to force the Ministry to do justice to a town and district destined at an early day to take high rank in the great centres of manufactures, agricultural, grazing, and mining industries of the Colony.

3rd October, 1888. JOHN SMITH.

[From the *Sydney Morning Herald*, 25 September, 1888.]

MESSRS. SEE AND EWING, M's.L.A., AT GLEN INNES.

[From our Correspondent.]

MESSRS. See and Ewing, M's.L.A., addressed a crowded meeting at Glen Innes on Saturday night. The Mayor presided. Discussing the railway policy, Mr. See said he journeyed up the Newton Boyd Road, over the Big Hill, and was disappointed. He had been frightened by stories, but he could not see anything formidable about the hill; the journey could be made on a bicycle. The Big Hill was the merest mite in comparison with the Blue Mountains, yet a railway was constructed over them. The two positions were identical in many important particulars, and the necessity for a railway over the Blue Mountains and the necessity for a line from Grafton to the west. The proposed line would secure a great interchange of productions; an enormous trade would spring up between the tropical productions of the Clarence and the semi-tropical productions of New England. It would be the precursor to new and great industries, and in the development of that part of the Colony. No one acquainted with the subject could have any doubt that without the assistance of the coast table-land railway the trade of New England would go to Brisbane. As it was, bullock-teams were plying between Grafton and Glen Innes, and competing successfully against the railway. No clearer proof should be needed than this. Grafton was the natural outlet for the trade of New England and the western country. They had a magnificent district; rich in every kind of material resources, and with especially rich and prolific land, but they wanted a market for their productions. Where could they get that market unless they sought the coast district? He was pleased to notice that the residents of Grafton, Glen Innes, and Inverell had united, and were making common cause in demanding the Glen Innes-Inverell railway. How could there be a doubt as to the national character of the work? This was recognised by the leader of the present Government, as in the course of speeches delivered by him in 1872 and 1874 he strongly supported the claims of the coast table-land railway. In taking that view the Premier took his stand upon purely patriotic grounds. He denied that the country between Glen Innes and Grafton was barren. Apart from its fruit-growing qualities and magnificent timber, it also, no doubt, contained untold mineral wealth. What was the sum of £2,000,000 for building a railway through a country like that? But, above all, it would open the door to commerce on the coast, Mr. See did not approve of differential rates; they were unfair to the public as a whole, and he thought the proper course was to open up the different intermediate ports. That was the policy adopted by the Queensland Government, and it was found to work well. The Government of this Colony seemed to entertain no such expansive views. Mr. See then proceeded to discuss fiscal matters, arguing in favour of protection.

Mr. Ewing also addressed the meeting in support of the cause of protection.

[From the *Daily Telegraph*, 25 September, 1888.]

MESSRS. SEE AND EWING, M'S.P., AT GLEN INNES.

AT 4 p.m. on Saturday last Mr. John See, M.P., arrived in Glen Innes from Grafton, for the purpose of stating his views with regard to the proposed railway from Grafton to Inverell. Mr. Ewing, M.P. for The Richmond, joined Mr. See at Glen Innes, and these gentlemen addressed a most enthusiastic meeting in M'Cormack's music-hall the same evening, at which Mr. Fitzhardinge, the Mayor, presided. Mr. See, in the course of his speech, stated that the difficulties of this scheme had been vastly exaggerated, and that the traversing of the Big Hill by a railway could be accomplished at a less cost than over the Blue Mountains. He stated that it was his conviction that if this measure is not carried out by the present Government it assuredly will be by the next, and pointed out that the construction of this line would establish communication with the whole of the north coast districts, and would not only traverse the richest sugar-land in the colonies, but would open out the finest country for timber and minerals and encourage settling on land capable of supporting tens of thousands of inhabitants. Mr. See, during the delivery of his speech, was repeatedly interrupted by uproarious applause, more especially when he quoted speeches both of Sir Henry Parkes and of Mr. Sutherland, delivered in the years 1872 and 1874, strongly in favour of the proposed line, and said that if in those days the railway was deemed necessary it was ten times more so now.

Mr. Ewing, M.P., in a most humorous speech, strongly supported Mr. See's views, and both gentlemen were of opinion that a radical change is necessary in the fiscal policy of the Colony.

[From

[From the *Sydney Morning Herald*, 19 July, 1888.]

DEPUTATIONS.—THE GLEN INNES-INVERELL RAILWAY.

A DEPUTATION from the Glen Innes-Inverell district waited on the Colonial Secretary yesterday to urge the construction of a line of railway from Glen Innes to Inverell. The deputation consisted of the following:—Messrs. Moore, Mathison, Dibbs, O'Connor, Dangar, Waddell, Wall, See, Levien, Melville, Black, Dowel, O'Sullivan, Fletcher, Cooke, Colls, Ives, McFarlane, De Courcy Browne, Haynes, Lyne, Stevenson, Bowes, Gormly, Fitzgerald, Jones, O'Mara, Hassall, McCourt, Penzer, Ms.L.A.; Messrs. G. A. Cruickshank, P. C. Campbell, J. Sinclair, G. Arthur, and J. J. R. Gibson, representing Inverell; Messrs. F. Utz, S. Burridge, G. M. Simpson, H. Vincent, R. Lewis, J. Munro, and C. Bloxome, representing Glen Innes; and Messrs. R. P. Abbott, Jamieson, Hoffnung, Jackson, Thos. Davis, Ross, W. H. Armstrong, Dewsbury, A. H. Moore, Tillock, Lassetter, and Harris.

Mr. MOORE, in introducing the deputation, said their object was to respectfully ask the Government to reconsider the matter of the proposed railway to Inverell, and submit the same to Parliament, in order that it might be referred to the Public Works Committee. The line from Glen Innes to Inverell had received the approval of Parliament, the money had been voted for it, the plans had been submitted to the Legislative Assembly, and only now awaited the approval of the Legislative Council. It came like an earthquake on the district when it was found that this line was not included in those to be submitted to the Public Works Committee. It was absolutely indisputable that this line would open by far the best country of any of the routes proposed, and would be the means of connecting two very important centres. As well as the great importance of reaching the Queensland market there was the very weighty consideration of reaching the Clarence River. The Premier so far back as twenty years ago, and at various times since, had spoken in unmistakable terms of the desirability of connecting the Clarence River with the rich table-lands of New England.

Mr. CRUICKSHANK spoke in favour of the line being taken from Glen Innes, and stated that all those who had any stake in the district were of the same opinion. They were entirely opposed to the line being taken from Guyra or Kentucky. The land through which the Glen Innes line would pass was rich agricultural land, and was all in the hands of settlers.

Mr. MATHESON pointed out that the people of the district were almost unanimous in desiring that the line should go to Glen Innes.

Mr. BURRIDGE said he believed it was the Government of Sir Henry Parkes who made the proposal which they were now advocating. He had been in the district for twenty-seven years, and he was in a position to say that the line from Glen Innes would be best for the country. He hoped the Premier would allow the question to go before the Public Works Committee. He had heard Ministers for the last ten years advocate the Clarence waters being connected with the table-lands.

Mr. SEE said he had such great confidence in the business capacity in the Public Works Committee that if the route from Glen Innes to Inverell were submitted to them as an alternative proposal, he believed their report would be overwhelmingly in favour of it.

Mr. DIBBS said the whole matter in connection with this line had been thrashed out before, and in fact the line had been endorsed by Parliament. A loan Bill to cover this line had been passed by the House. The approval of the Legislative Assembly was also obtained to the plans and sections, and it was only through the extraordinary action of the Legislative Council that the line was not constructed. This line had no right to go before the Public Works Committee, except so far as the tenders were concerned. He held that Parliament having settled the question, the line should be made, and that was the view he intended to take in the House. He would like to see the Premier give his assurance that he would do his best to get the plans and sections passed through the other House.

Some other gentlemen having spoken,—

Sir HENRY PARKES replied. He said that as they were aware the Government had proposed to Parliament a line to connect Inverell with the Great Northern line at Guyra. What the deputation asked the Government to do was to reverse that proposal and carry the line from Inverell to Glen Innes. All he could say now was that he would represent what the deputation had represented to him to the Government of which he was a member, and he would do that almost immediately. (Hear, hear.) There was a Cabinet in a few minutes, and at that Cabinet he would represent faithfully what the deputation had brought under his notice. (Hear, hear.) It seemed to him almost certain that if they had to reconsider the connection of Inverell with the Great Northern line that it would involve a little delay. As their proposals would be submitted to Parliament to-morrow, it appeared to him that if they had to reconsider this question they would not be able to include the line in these proposals. That would cause a delay of three or four months—(hear, hear)—so that they must be prepared for that. (Hear, hear.) All he could say, speaking for himself and assuming that he could speak for his colleagues, was that they desired to serve the country, and he trusted they would serve the district by the connection which would be made between Inverell and the Great Northern line. (Hear, hear.) It was perfectly true that a long time ago he put before Parliament the importance of connecting the table-land with river navigation. He held that opinion now. (Hear, hear.) He held the opinion very strongly that it was a sound policy for this country not to direct the internal trade of the country to Sydney or any other single port, but to open all our lines of navigation and utilise all outports. (Hear, hear.) He held that opinion as strongly now as he ever did, and he did not think he had consciously done a single thing merely to direct traffic to the port of Sydney. (Hear, hear.) All he could say now was that he would represent the matter to the Government, and though he was not in a position to promise it, he should be quite prepared to concur in a reconsideration of the question. (Hear, hear.)

[From

31

[From the *Daily Telegraph*, 17 October, 1888.]

THE INVERELL-GLEN INNES RAILWAY.

A PETITION, to which are appended over 2,000 signatures, being a supplementary one to that sent from Grafton by the Clarence Harbour and Railway League, was forwarded by the Glen Innes League to Sydney yesterday. The petitions are to be presented to the Governor by a monster deputation, which will consist of about 100 of the leading residents of the Clarence districts and of Sydney. The object of approaching Lord Carrington is to point out how neglectfully the people of the Clarence districts have been treated by the successive Governments, and to ask the intercession of His Excellency in urging on the construction of authorised lines of railway on the Clarence, and from Inverell to Glen Innes. The joint petitions have been signed by about 8,000 persons. The trade between Grafton and the western districts continues to increase. There are now some forty teamsters engaged on the line, and as the bulk of the wool this season will go by the Clarence to Sydney, the traffic will be considerable. The carriage from Grafton to Inverell is taken at £4 10s. per ton, which means a saving of more than £2 per ton by rail from Sydney to Glen Innes.

No. 122.

Extract from the *Daily Telegraph*, 23 October, 1884.

THE GRAFTON-GLEN INNES RAILWAY.

AFTER a debate, which began soon after the House met, and terminated half an hour past midnight, the Government proposal to construct a railway from Grafton to Glen Innes, thus connecting the central territory of New England with the nearest seaport, was carried by twenty-nine to twenty-seven. A close division was expected, and as the argument drifted hither and thither during the course of the debate, it was difficult, if not impossible, to tell how the vote would go. We are glad the House has sanctioned the line, though the cost is appalling to timid financiers, who talk as though the interest on money invested in railways had to be defrayed out of taxation—taken out of the pockets of people who are not directly benefited by the cheap and swift facilities of traffic. But for the fact that the Grafton-Glen Innes line has to ascend a mountain range, and will necessarily be one of the most expensive railways for its length in Australia, the House would have voted it years ago. Two millions is an enormous sum of money to be spent on so short a road, but our enlarged opportunity of borrowing has apparently diminished it. When we could only borrow a small number of millions in a given period, and had to make the terms very easy for the English investor, we were compelled to spend what we could get on the most necessary and promising lines. But now we have a more prosperous Colony and a broader credit. We have a magnificent general revenue to fall back upon, and a recent record of railway revenue we are all proud of. Even now there is much to be said against the Grafton-Glen Innes lines on the score of its costliness, and it was said abundantly, vigorously, and eloquently last night. But there is a little more to be said in its favour, and that, too, was well said last night. The Clarence River members were thoroughly equal to the occasion, and contributed very solid support to the Government. Sir Henry Parkes was once more the chief opponent. That, however, is not in the least degree to his discredit. He simply did his duty as the representative of Tenterfield. He was elected for that constituency with a view to securing his powerful advocacy for a Grafton-Tenterfield line, and he fulfilled his trust loyally. He certainly made the best of a bad cause, but the cause was so bad that it was easy for inferior men to expose the fallacies he was compelled to employ. What the House felt it had to decide was not whether the railway should go to Glen Innes or Tenterfield, but whether a line should be constructed to Glen Innes. That or nothing. And honorable members, after the best debate which has yet taken place on separate proposals of the railway policy, decided that the two millions should be invested. It is a bold vote, but we believe it will be justified by the future.

No. 128.

Mr. Railway-Surveyor Cumming to The Engineer-in-Chief for Railways.

Trial Survey, South Grafton to Glen Innes—Report on Rhodes' proposed line *via* Camboodjha River.

Sir, Copmanhurst, 16 June, 1885.

I have the honor to report that I have traversed and levelled 10 miles of the Camboodjha River, from the junction with the Clarence towards the summit.

This portion of the river is very flat, rising only 455 feet in the 10 miles. The remaining portion is very steep, as it rises 2,550 feet in 13 miles. To gain the summit the line will require to rise 1 in 40 from the river; consequently, the formation will be about 900 feet above the bed of the stream for several miles. I find that the ground about this level is quite impracticable, being extremely rugged, and intersected by immense ravines.

The tributaries near the junction with the main stream are nearly level, and the slopes or banks of the river vary from 1 to 1 to 2 to 1. The line will, therefore, require several tunnels and some immense viaducts, from 300 feet to 800 feet high. A practicable line could not be got with even 5-chain curves, as the ravines are so narrow and rugged.

All the spurs and ranges in this neighbourhood are of the same character, being extremely rough and broken, and very unsuitable for a railway. The line must, therefore, follow some long river, and must keep near the level of the bed, to avoid tunnels and high viaducts. The Camboodjha River is too short, being so flat near the mouth and so steep near the summit. The Mann is the only long river that runs

runs in the proper direction (east and west) for a line from Grafton to Glen Innes. The Nymboi and the Henry, joining the Mann on the south bank, run about north and south. The first long river north of the Mann is the Rocky River; it rises near Glen Innes, and joins the north arm near Tabulam. These rivers, I am told, are rougher than the Mann.

When I went over Rhodes' line we went up the bed of the Camboodjha River, and came down the Mann River line, from 75 miles to 16 miles.

I am now quite certain that the line *via* the Mann River is by far the cheapest and shortest that can be got from South Grafton to Glen Innes.

Per same mail I send county map and plan of 10 miles of the Camboodjha River.

I have, &c.,

JOHN CUMMING,
Railway Surveyor.

Mr. Deane.—W.H.Q., 22/6/85. According to Mr. Cumming's report, Mr. Rhodes' route is quite impracticable. It would, therefore, be useless to waste any more time over the survey.—H.D., 30/6/85. The Engineer-in-Chief.

Sir, Camp, 28 May, 1885.

I have the honor to report to you that I have commenced the survey of the Camboodjha River, and have traversed and levelled 4 miles. I intend to run a traverse line far enough to test this route. I will report again in about a fortnight, when I will have half the river surveyed.

I have, &c.,

The Engineer-in-Chief, Railway Department, Sydney. JOHN CUMMING.

Mr. Deane.—J.W., 5/6/85. Noted.—H.D., 9/6/85.

No. 129.

Report by Mr. Railway-Surveyor Walker upon Quinn's Route.

Railway Survey Office, Pitt-street, 20 August, 1885.

QUINN'S route, as originally pointed out by him to Mr. Warren, was to cross the Mann or Mitchell River at the present crossing of the survey from South Grafton to Glen Innes, which is now being permanently staked, and to follow down the river (here called the Cangi, or South River) to where the Dandahra Creek runs into it; thence to attempt the ascent of the table-land, which, as Mr. Deane shows on Papers 85-2,982, from Mr. Warren's heights, would be a rise of 1 in 9. That this was Quinn's original route is shown by Mr. Warren's letter, 81-1,486, and I myself know it from Mr. Warren.

Mr. Warren, in this letter, suggests an alternative route, viz., to attempt the ascent from the present adopted survey, crossing of the Mann River, along the range which follows the general direction of the river.

This route Quinn has adopted as his own.

I assisted Mr. Warren to survey this route, and our surveys joined not far from the heads of the Dandahra Creek, or, what Quinn calls, in his letter, Dandahra Gorgy gullies.

I surveyed the part through the Dandahra country, starting back at Glen Elgin Station. There were very heavy works on parts of that, especially getting out of Oaky Flat, where they would certainly be as heavy as anything to be found on the present permanent survey up the Mann River. The ascent to the top of the Dividing Range was considerably over 1 in 40, and though, in descending the other side of the range, I did not, as Quinn states in his letter, exactly adhere to the route he showed me, the difference was immaterial, and what extra distance was put in made the grade easier.

However, I did survey past a point which Quinn himself showed me as one where Mr. Warren and himself had agreed to attempt a line, but which is far distant from the route which he shows on his sketch, and which he has adopted as his own.

I was over nearly the whole of Mr. Warren's part of the survey, and remember the leading facts. Quinn states that Mr. Warren, after topping the range at the heads of Cangi Creek, should not have surveyed the line through the Dandahra gullies, but he had not topped the range there, and therefore he was obliged to follow round the spurs and gorges to get distance, for, as Mr. Warren states in his letter, he required 15 miles to get up, and the heads of Cangi Creek are approximately only 6 or 7 miles from the crossing of the Mann River—that is to say, assuming the height of the table-land to be 2,700 feet. Quinn thinks that it can be surmounted at the rate of (say) 320 feet per mile.

Mr. Warren often told me that the works along this line were entirely prohibitory, involving tunnels through all the spurs which were not broad enough to take a curve round, and stupendous viaducts over the gorges.

Mr. Warren was unable, through the character of the country, where there is no feed for horses, or shelter of any kind, to thoroughly examine this route before he commenced to survey, else I am quite certain that the report he would have given of it would have prevented a chain, level, or theodolite ever being taken on the ground with a view to surveying for a railway.

W. DOUGLAS WALKER,
Railway Surveyor.

Seen.—H.D., 20/8/85. For the Minister's information.—J.W. (*per* W.H.Q.), B.C., 27/8/85. Under Secretary. Railways.—J.R., B.C., 31/8/85. Seen.—F.A.W., 7/9/85.

Dear

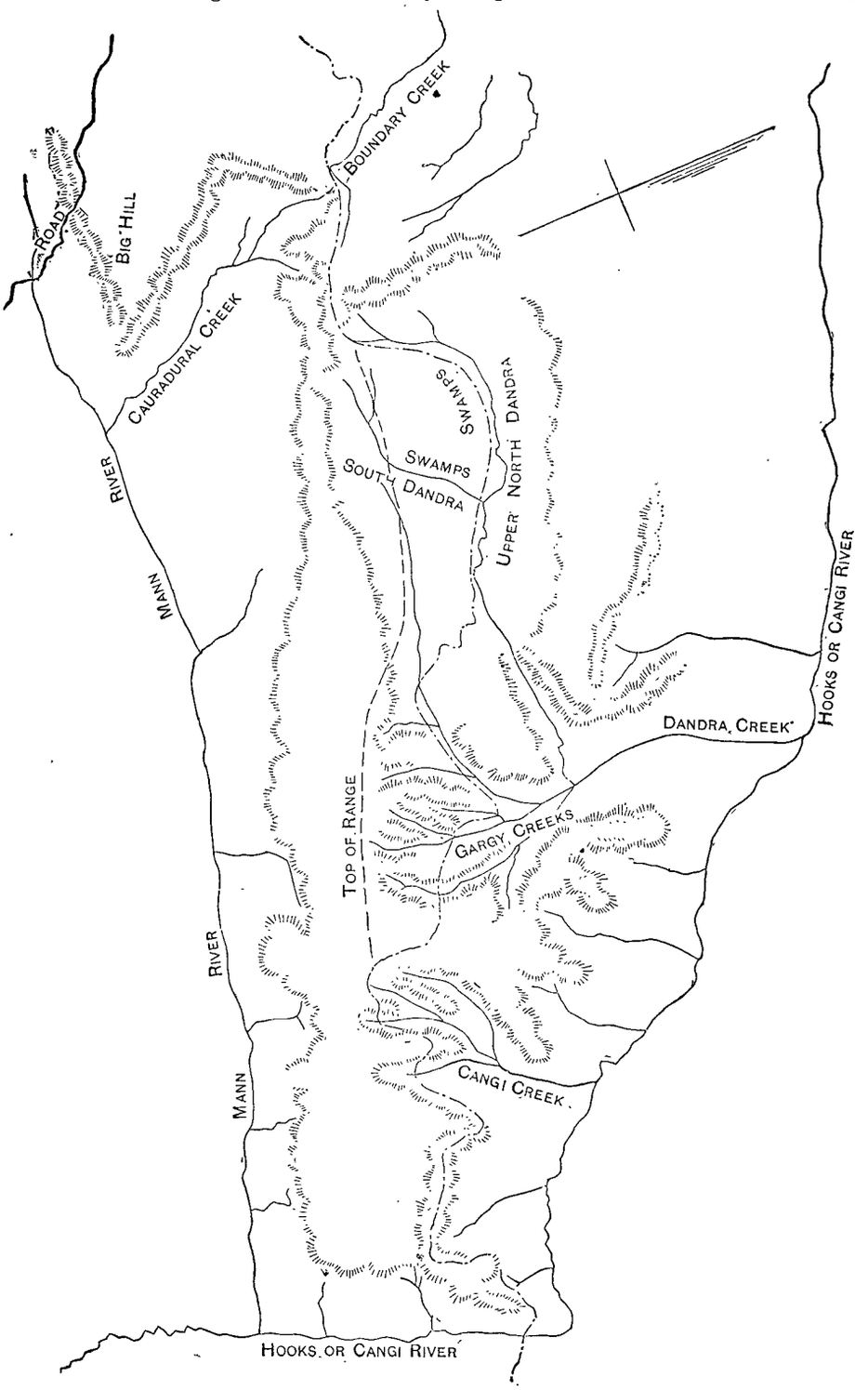
W. J. Fergusson, Esq., Castlereagh-street, Sydney,—

Dear Sir, Emmaville, 10 August, 1885.

Yours 6th instant to hand, in which you think that the Railway Department is not favourable to my offer *re* a further examination of the route that I showed to the surveyors, Mr. Warren and Walker, for Grafton to Glen Innes railway, and that they consider I should have written about it long ago. I beg to state that I was not along the surveyed line, nor on it, from May, June, and July, 1881, to May, 1885, nor was I aware of the fact that Mr. Warren surveyed the line down through the Dondra Gorgy Gullies after topping the range at the heads of Cangi Creek, nor that Mr. Walker surveyed down the North Dondra, instead of down the South Dondra Swamps. It may seem ridiculous for me to state that they went astray, and yet it is a fact, and enclosed I send a memo. of Mr. Walker's that may give some slight proof of it; but still I do not wish to lay the blame on the surveyors. They had to wade through a perfect maze or jungle and winding ravines that would puzzle and bewilder any mortal man, and although the surveyors actually went astray, still the surveyed line is only 86½ miles, which is 20 to 30 miles shorter than any other that can be found, and still 8 to 10 miles can be reduced from its length; besides, I most positively assert that many of the—I may say nearly all—serious difficulties that caused the original survey to be condemned can be avoided. Ten days would be sufficient for a surveyor and one man to go with me over the route to prove whether it is really worth surveying again or not, and surely the route is worth that small trial before it would be just or wise to condemn it. Hoping for a trial.

I am, &c.,

P.S.—Enclosed find rough sketch. Private by next post. H. QUINN.



This

This rough sketch (dotted and dashed line) shows top of the range. But being aware of this very important fact, he followed down by a spur until he was led into the Gorgy creeks or gullies, which he mistook for parts of the Cangi Gorge, but really were tributaries, as shown, of the Dondra Creek. He should have kept by the red dashed line and not gone near the gorges of the Dondra.—H.Q.

Mr. Whitton for report. This man appears to know the country well, and I think his letter is worthy of careful consideration.—F.A.W., 17/8/85. Mr. Deane.—W.H.Q., 19/8/85. I have referred this letter to Mr. Walker, and append his report. I do not see that any good can be gained by further exploration.—H.D., 20/8/85.

[Extract from *S. M. Herald*, 19 June, 1885.]

(From our own correspondent.)

Casino, Thursday.

At a public meeting held on Monday night the following resolution, moved by Alderman Gully and seconded by Mr. W. Yabsley, J.P., of Coraki, was unanimously adopted:—"That in view of the fact that Parliament has by a very large majority adopted the proposal submitted by the Government for the construction of the line of railway from Grafton to the Tweed *via* Casino, Lismore, and the Brunswick, this meeting is of opinion the permanent survey and construction of the line should be undertaken without any further delay, more especially from the fact that such a line will provide highly necessary internal communication and unquestionably tend to develop the resources of the districts concerned, and thereby benefit the Colony generally." The Mayor was requested to telegraph this resolution to the Minister for Works.

W. J. Fergusson, Esq., M.P., Castlereagh-street, Sydney,—

Dear Sir, Emmaville, 22 July, 1885.

I beg to inform you that I have lately been over Messrs. Warren and Walker's survey of the railway route that I showed them for the Grafton-Glen Innes railway, and I am sorry to say that I find the survey has been erroneously diverged from its proper course, and consequently not only made the line 8 to 10 miles longer than it should be, but it has also caused the survey to pass over gorges that I would not think of bringing a railway through. But I wish it to be distinctly understood that I do not wish in any way to blame the surveyors for this misfortune, but I must blame myself and those who should have supported me, to remain with the surveyors until the survey was got through the scrubby part of the route. However, I wish you to see if you can get the Department to allow a surveyor once more to go with me over the route to make an authentic report on what I can (and do not think I make any mistake) show him, to prove that the line can not only be made 8 to 10 miles shorter, but also that nearly all the great obstacles that were met with on the original survey can be completely avoided. And bear in mind that Messrs. Warren and Walker's survey was only 86½ miles from Grafton to the main Northern line, near Dundee (by far the shortest yet surveyed) say nothing about the 8 or 10 miles that can yet be deducted from it, and it will also open up one of the largest timber forests in the Colony, besides a very large tract of country that is now lying perfectly dormant.

Hoping you will let me know what may be done in this matter.

I have, &c.,
H. QUINN.

P.S.—Rhodes' route, now under course of survey, will not be less than 120 miles long, and it must follow on fully half of my route; and I may inform you that Mr. Surveyor Warren diverged the Mann River line on to a part of the route that I showed him.—H.Q.

Engineer-in-Chief for Railways.—W. J. Fergusson, 27/7/85. Mr. Deane,—See previous papers herewith.—W.H.Q.

It would appear from Mr. Warren's Report, 81–1,486, that he did explore sufficiently carefully the route pointed out by Quinn, and that he found it impracticable. He states that on the main creek, which was the one to be followed, there are falls 4 miles from the junction with the South River, the top of which are 2,700 feet above the sea. The junction of the Dandarah with the river is at a lower level than where the adopted route crosses, and the latter is only 436 feet above the sea, so that according to Mr. Warren's report the rise of the creek in 4 miles must be at least 2,700—436=2,264 feet, or 566 feet per mile, giving a rise of 1 in 9. It would be therefore waste of money and time to examine the route further.—H.D., 3/8/85. The Engineer-in-Chief.

No. 132.

J. See, Esq., M.P., to The Secretary for Public Works.

Dear Sir, Sydney, 8 April, 1889.

I have the honor to respectfully request that you will be good enough to inform me if anything has been done in the matter of the Grafton-Glen Innes line of railway?

As I understand the Commissioners are about to inspect the Grafton to Tweed route, I respectfully request that you will be good enough to submit the Grafton-Glen Innes route to their consideration, with your request that they would inspect this route at the same time. They could proceed to Glen Innes, and go over the route to Grafton, then inspect the Tweed route.

Yours, &c.,
JOHN SEE
(*per* ALBERT ALLEN).

Mr. Whitton,—Will you kindly let the Minister know how this matter stands.—J.B., B.C., 10/4/89. The sum of £2,000,000 was voted (in 1884) for the construction of a railway from Grafton to Glen Innes. Papers herewith.—J.W. (*per* W.H.Q.), B.C., 12/4/89. Under Secretary. Submitted.—J.B., 12/4/89.

No. 133.

F. A. Wright, Esq., M.P., to The Secretary for Public Works.

Sir, 241, Pitt-street, Sydney, 11 November, 1889.

Herewith please find a long letter addressed to myself from the Railway League at Glen Innes. This letter was received by me some time past, but being desirous of personally presenting it to you, I have refrained from sending it before this. As, however, I leave Sydney shortly for my electorate, I think the matter should be at once placed before you.

Glen Innes, as you are doubtless aware, is almost due east from Grafton, and is in a direct line between that place and Inverell. I hold very strong views about the necessity of connecting Inverell with the Main Northern railway system at Glen Innes, quite irrespective of what may be done to connect with the coast, as the distance is not only less between these two places than any other proposed route, but the country is far superior. If it is considered desirable to construct a railway from the table-land to the coast (and I certainly think it is so), and anything like a fairly practicable route can be got from Glen Innes to Grafton, then there can be no doubt that in the interests of the country that route should be adopted. The enclosed letter explains that a new route has been discovered, which is perfectly practicable by easy grades, and that it passes through very valuable country. I attach with the letter a sketch plan of the district, showing the routes marked upon it, as surveyed from Inverell to Glen Innes, and from thence to Grafton; the newly discovered route is shown on the plan, deviating from the surveyed line to the north, passing along Combadja Creek, and thence by Gordon Brook to South Grafton. This sketch plan has been prepared by Mr. Greaves, who for thirty years was the district surveyor in that part of the country, and knows the whole district intimately. He tells me that this proposed new line will pass through land particularly good for agricultural purposes, and very rich in forests of cedar and other valuable timbers, and although it will make the distance between Grafton and Glen Innes rather more than the surveyed route, it will pass through such a vastly superior country as to more than compensate for the extra length of line to be constructed. It will (if the new route be found a practicable one) be a very much shorter line than the proposed line from Guyra to South Grafton, either *via* Coff's Harbour or direct, and Mr. Greaves informs me that it will pass through a decidedly better country than the line from Guyra. If, upon examination, this is shown to be correct, I think there cannot be any question as to which route should be preferred, for the simple reason that, as I have stated before, Glen Innes occupies the most central position in the table-land of New England, and being immediately east of Inverell, and the splendid rich country west of Inverell, would point out unmistakably this route as the main line from Grafton to the west.

It is not necessary for me to write you a long letter on the subject, because until the practicability of the route be definitely ascertained by competent engineers, it is useless to discuss it; but in view of the letter which I now place before you, I would respectfully ask that an officer be despatched to examine this country carefully, and to verify or otherwise the statements of the Railway League at Glen Innes, which I have every reason to believe will be found absolutely correct. In the interests of the electorate I have the honor to represent, and the country generally, I beg to request that prompt steps may be taken to examine the route in question. The members of the Railway League in Glen Innes whose names are attached to the letter will provide a guide for the surveyor, and do all things necessary to assist him in the performance of this work.

Yours, &c.,
F. A. WRIGHT.

P.S.—I may state that I was very anxious to see you in company with Mr. Greaves before that gentleman left Sydney, but unfortunately the appointment we had with you fell through, through your inability to give us the necessary hearing. Mr. Greaves' residence of thirty years in the district in the capacity of district surveyor gives him an authority to speak that I think no other man in the Colony has. He knows the whole country intimately, has traversed every portion of it, and as he is disinterested, having no property that could be affected by it, I take it, his evidence would have been of considerable value to yourself.

Say Minister very much regretted his inability to keep his appointment with Mr. Wright, and that he will have the proposed route examined at once.—J.B., 13/11/89. F. A. Wright, Esq., M.P., 14/11/89. Mr. Deane.—J.B., B.C., 14/11/89. Urgent.

I should have much liked to see Mr. Greaves when he was in Sydney. It is a pity he was not asked to call at this office. To judge from Mr. Surveyor Cumming's report, 85/2,500, of 16th June, 1885, the proposed route would appear to be impracticable, but I should like to see the country again examined. Mr. Barling has promised to get Mr. Wright to call at this office before anything further is done.—H.D., 22/11/89. Under Secretary, B.C.

[*Presented*

[*Presented by F. A. Wright, M.P.—Enclosure.*]

F. A. Wright, Esq., M.P., Sydney,—

Glen Innes, 3 October, 1889.

Dear Sir,

We, the members of the Grafton and Western Railway League, have come into possession of very important information relative to a new route which has been discovered between Grafton and Glen Innes.

We, therefore, respectfully request you to bring the following facts before the Honorable Minister for Works, with the object of attaining a trial survey on the route herewith indicated.

The Committee of the League are prepared to guide the surveyor along the proposed route, which is estimated can be done comfortably within one week, and place all information in detail in his hands.

The Route.

Starting from Glen Innes, north of surveyed line by Mr. Warren, *via* Glen Elgin, Oakey Creek, by the head of Boundary Creek, crossing some of the northerly waters of the Dandarha Creek; thence along the valley of Coombadjha Creek across the south branch of the Clarence River; along the valley of that river, *via* Newbold and Ramornie, to South Grafton. The distance will not exceed 100 miles.

Advantages.

The advantages claimed are cheapness of construction, inasmuch as the descent from the table-land is made down a long open valley, and therefore would obviate sharp curves, retaining-walls, and steep gradients. The line will run through very good country, consisting of heavily timbered cedar scrub, flats, and open lands suited to agriculture. Valley of Coombadjha is about 15 miles north of present Mann River route, and never has been submitted to any trial survey. The nature of the country is so free from physical difficulty that a buggy can be driven to Grafton if the scrub is cleared and a few small crossings were constructed.

Nearly the whole of the country which will be opened by this line is the property of the Crown, the greater part of which is fit for settlement.

On the Coombadjha Valley the land is similar and equally as fertile as the Dorrigo and Bastobrick scrubs.

On the whole of the route there is not 10 miles of bad railway country.

The extensive timber trade which would be developed if this country were opened up would be practically unlimited, as extensive forests and scrubs of ironbark and other hardwoods, also of cedar, beech, rosewood, satin-woods, &c., are known to the explorer and forest ranger, and easy of access.

The existence of minerals (tin, gold, and copper) has been proved in payable quantities; indeed, at Cangai, the gold reefs now being opened out bid fair to equal anything yet found in the Northern districts.

Considering this route would offer to Inverell and the great western country the most direct and shortest outlet to the port of the Clarence, we regard it as one of national importance, and as the present Minister for Works is so alive to the necessity of connecting these rich districts with the coast, we feel confident it will commend itself to his unbiassed judgment.

The people of this district are so confident that a good line exists between the respective towns mentioned that they will guarantee to have a track cleared in the event of a trial survey being granted. They will also guarantee to guide the surveyor, and blaze the track.

Commending this to your earnest and immediate consideration.

We have, &c.,
S. W. BURRIDGE.
H. C. A. VINCENT.
J. F. UTZ.
EDWARD GROVER.
P. McCORMACK.
MORETON H. FITZHARDINGE.
C. LEGH.

Telegram from F. A. Wright, Esq., M.P., to Engineer-in-Chief for Railways.

22 November, 1889.

KINDLY inform when you will reach Glen Innes make trial survey to Grafton. Reply at once.

No. 135.

Memo. by Mr. District-Engineer Hutchinson to The Acting Engineer-in-Chief.

Exploration for Railway from Glen Innes to South Grafton *via* Coombadjha Creek.

Railway Construction Department, Sydney, 16 July, 1890.

IN compliance with your instructions, I beg to inform you that I have examined the above proposed railway route, and I have the honor to submit herewith my report.

For the first 5½ miles the permanently surveyed line would be adopted; thence by the head-waters of Skeleton Creek to the head of Glen Elgin Creek, crossing the main road near Bald Nob; thence for about 3 miles along east bank of Glen Elgin Creek; thence north-easterly through heads of French's Creek, Log Gully, and Bloor's Gully, and round head of Oaky Flat, immediately under "The Bluff," to Bench mark No. 10 on Mr. Warren's survey; thence across to Duffer Creek, and up that creek to top of "Haystack Spur"; thence along west side of Gibraltar Range to a gap in said range, about half a mile to the north of tree marked ↑ over GD over V over 82 on boundary survey; thence through this gap to the head of Coombadjha Creek, and along the south bank to its junction with South River; thence across this river, and along its south bank, to the Clarence River; thence along south bank of Clarence River to join the permanent survey at Ramornie Station; thence along the permanent survey to South Grafton.

From the junction of the permanent survey with the Great Northern Railway to Glen Elgin Creek the country is comparatively easy, and there would be no works of any importance on this portion of the route.

From Glen Elgin Creek to the gap in Gibraltar Range, a distance of about 18 miles, the route becomes more difficult, as the country is broken up into ridges and gullies, which would necessitate some deep cuttings, high banks, and perhaps one or two short tunnels.

The level of gap in Gibraltar Range was found to be 3,550 feet, and not 3,000 feet, as stated by Mr. Archibald in his letter to the Glen Innes Railway League, of 4th May, 1890, and as the level of Glen Innes is 3,518 feet, this gap is a little higher than the latter place, instead of 500 feet lower as represented. Up to this point, therefore, nothing has been done towards making the descent from the table-land of New England. The total length of the Coombadjha Creek from the gap in Gibraltar Range to its junction with the South River is about 25 miles, and the total fall in that distance, 3,000 feet, and, therefore, nearly the whole of the descent is made along the valley of this creek, and if the fall of the creek was uniform there would be a continuous grade for 25 miles of 1 in 44. The creek, however, does not fall at a uniform rate, as besides an abrupt fall of about 500 feet in 20 chains the top portion of the creek falls more rapidly than the lower ends.

As

As before stated, the gap in Gibraltar Range, which is the head of the creek, is 3,550 feet above sea-level. The top of the falls, about 7 miles from head of creek, is 2,318 feet; the bottom of falls, about 20 chains farther down the creek, 1,800 feet. At 15 miles from head of creek the level is 958 feet, and at junction of creek with South River, 543 feet.

Assuming the line to start with a cutting 50 feet deep on top of gap, and to have a gradient of 1 in 40 to the falls, the line at top of falls would be 258 feet above the bed of the creek, and from this point to the junction of the creek with South River, a distance of 18 miles, there would be a continuous grade of 1 in 48, and the line would be at an average height of about 600 feet above the bed of the creek. If the line could follow along the creek at a height of from 50 to 100 feet above its bed the ground would be pretty favourable, except in a few cases, where the spurs run close down to the creek, but as this is impossible, and as the mountains at higher levels rise abruptly, and have numerous spurs and ravines running out from them, I consider that the country is quite impracticable for railway purposes at the level along which the line would have to be taken.

Where the proposed line crosses the South River there would be some difficulty in getting a crossing at right angles.

For the next 3 or 4 miles along the south bank of the Clarence River the works would be of a very expensive character, as the mountains rise very abruptly from the river, and the line would have to be constructed along a very steep sideling. From this point to the junction with the permanent survey at "Ramornie," the works in some places would be heavy, but this section would, I think, compare favourably with a similar distance from "Ramornie" towards Glen Innes on the permanent survey.

It will be seen from this report that, in my opinion, the valley of the Coombadjha Creek is an impracticable route for a railway, and I consider that it would be a waste of time and money to make a trial survey of this route.

W. HUTCHINSON.

C. Legh, Esq., Hon. Secretary, Glen Innes Railway League,—

Dear Sir, Glen Innes, 4 May, 1890.

On the accompanying chart I have marked approximately the position of that part of the proposed railway route where the ascent to the table-land is gained along the valley of Coombadjha Creek, and herewith I beg to submit the following notes for your guidance:—

The principal question being the ascent of the table-land from the low-lying valley of the Clarence River, I have given my attention particularly to that part of the subject, and have now marked the track along that portion of the route, and while I indicate the course into Glen Innes from the point where the elevation to the table-land is attained, as also from the beginning of the ascent from a point near the confluence of the Mitchell and Clarence Rivers into Grafton, these parts of the route may well be left out for your future consideration, as in either case I have indicated an alternative route.

Starting from Glen Innes the route may take the course surveyed, *via* Yarrowford to the Dividing Range, between the watershed of the Rocky and Mitchell Rivers, part of this portion being already marked and surveyed, or from Glen Innes by the head waters of Skeleton Creek; thence near the old Bald Nob and near Lewis' sawmill, and leaving the Black Mountain to the eastward, along past the head waters of Oaky Creek to the point in the watershed of the Rocky and Mitchell Rivers before mentioned. This last appears to me preferable, as it is about the same distance, and avoids any descent into the valley of the Rocky River below the level of the adjoining table-land, and passes through country that is fairly fertile, particularly so from near Lewis' mill to the head of Boundary Creek, where the line would be passing through one of the finest brush forests on the eastern table-land.

From this point the descent is commenced, and the course is about north-east across the head waters of the left branch of Dandahra Creek to a low gap in the range which forms the watershed of Coombadjha Creek. This last 8 miles of country is of little value, being a table-land of granite ridges and marshy flats; it, however, presents no engineering difficulties in the way of making a railway.

Once the watershed of the Coombadjha Valley is attained the country entirely changes, and is covered with dense scrub, and the soil is exceedingly rich. The course of the line would thence traverse this valley to near its confluence with the Mitchell River, and it is along this part of the route when the greater part of the descent from the table-land is made. The valley is about 20 miles long, and the reading of my aeronoid would indicate that the elevation at the point I have marked where the valley would be entered to be about 3,000 feet, and the elevation at the confluence of the Coombadjha and Mitchell waters to be about 500 feet over sea-level, which would give an ascent of about 2,500 feet to be made along this 20 miles of the route; this would give an average grade of about 1 in 52 along this 20 miles.

The valley of Coombadjha being very open, the country along its right hand particularly so, forming in large flat terraces which would give ample room to carry the line along the bank for its whole length.

The formation of this valley is generally trap and slate rocks, and the soil very fertile, the first 10 miles being covered with a dense cedar scrub, which extends northward for a distance of from 25 to 30 miles, and is heavily timbered with many valuable woods, such as beech, rosewood, &c. There are extensive flats which, when cleared, would form the best of agricultural land, and once this part is passed the remainder of the valley forming part of the Yulgelbar Run is noted for the richness of its pastures.

The Coombadjha Valley joins the Mitchell or South River near its junction with the Clarence, and from this point there are two routes available, going to either South or North Grafton. The one would cross the Mitchell near its junction with the Clarence; thence along the right bank of that river through Newbold and Ramorne, joining the present surveyed route about 16 miles from South Grafton. The other would cross the Clarence River above the junction; thence through Gordonbrook and Coobdale into North Grafton.

Either of these lines would pass through country highly suitable for settlement, which is indeed so well known that it is not necessary for me to describe it.

I would estimate that the distance of this route from Glen Innes to South Grafton to be about 103 miles, and to North Grafton about 110.

I regret that the time at my disposal is too limited to do full justice to this subject.

Yours, &c.,

J. W. ARCHIBALD.

No. 137.

No. 137.

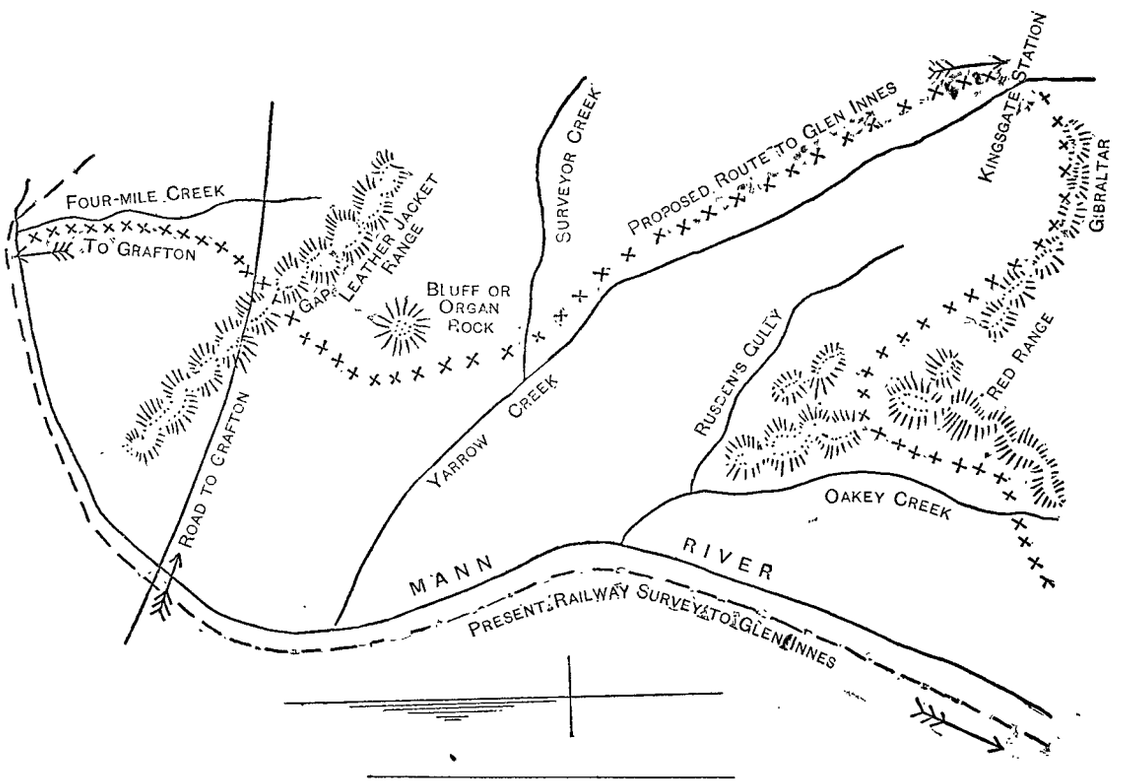
Memo. of Route proposed as a deviation from the surveyed Railway Route between Glen Innes and Grafton.

THE chief difficulty on the above line having been found in the section between the foot of the Big Hill and Shannon Vale Station, the route now described is proposed to avoid these difficulties. The surveyed route rises very rapidly from the foot of the Big Hill to Shannon Vale Station, through a narrow gorge, which it follows along the left bank of the Mann River, when the line has to be carried on cuttings along the face of the steep declivities abruptly overhanging the river. The deviation will follow the opposite, or right side of the river, where there is room to make the ascent by easy gradients and without expensive cuttings by following the watershed of several small tributaries and the course of Yarrow Creek.

The difficulty expected by Mr. Surveyor Hutchinson in rising from Kingsgate to Red Range is avoided by following the northern slope of the range round to the Mann River, which is crossed at a point below the site of the new bridge, on the road from Glen Innes to Red Range; thence there is an easy ascent from the river to the crown of the main range, which is crossed about 5 miles from Glen Innes.

Starting from Glen Innes, the proposed route crosses the Beardy and the main range, reaching the Mann River at the point already indicated; thence after crossing the river it follows a spur of the Red Range to Kempton's selections; thence to Avandele's, on Oakey Creek, which rises in Perry's Swamp and falls in the Mann River; thence down the right bank of Oakey Creek, after leaving which it skirts the northern slope of Red Range, going easterly through a gap in the spur from said range, which divides Rusden Gully from Oakey Creek; then continuing under the range, and leaving a bluff, locally known as Gibraltar, on the right, till Kingsgate Station is reached, where the route crosses Yarrow Creek; thence following the right bank of that creek, which is also a tributary of the Mann, northerly to below its junction with Surveyor's Creek, which is crossed some distance above the junction; then leaving Yarrow Creek, so as to hug the range under the Bluff, or Organ Rock, and crossing Leather Jacket Range at a gap close to the present coach road from Grafton to Glen Innes; thence down Four-mile Creek, to join the present railway route after it crosses the Mann River.

The route above described is in its main features the same as marked many years ago by Mr. Surveyor Hoyle, whose pegs and trees can be followed over a great portion of the distance. There are no steep gradients nor any heavy works. The chief difficulty lies between Oakey Creek and Kingsgate for a distance of about 7 miles; but on the whole the route does not increase the total length of line between Glen Innes and Grafton.



No. 138.

Minute by The Acting Engineer-in-Chief for Railways to The Under Secretary for Works.

Subject:—Glen Innes to South Grafton, *via* Coombadjha Creek (Mr. Hutchinson's exploration.)

Department of Public Works, Railway Construction Branch, Sydney, 21 July, 1890.

I HAVE the honor to forward herewith Mr. District-Engineer Hutchinson's report on his exploration of the country between Glen Innes and South Grafton, *via* Coombadjha Creek.

It will be seen that at the end of the first 23 miles from Glen Innes the line is still at the same level as at the commencement, and that nothing had been gained in the descent towards Grafton, the altitude of this point being 3,550 feet, not 3,000 feet, as stated by Mr. Archibald. From here, a very rapid drop along the Coombadjha Creek takes place; the creek, unfortunately, has not an even fall. At

one

one place, indeed, there is a drop of 500 feet in 20 chains; the consequence is, that in order to get a workable grade the line would have to be kept, for the most part, at a considerable height above the creek, through extremely rough country with a steep sidelong slope, and intersected by deep ravines.

From the mouth of the creek to the junction with the surveyed line, this route presents no great difficulties.

The conclusion to be drawn from Mr. Hutchinson's report is that the Coombadjha Creek route is impracticable, and that it would be a waste of time and money to make a trial survey of it. This view is entirely in accordance with that expressed in Mr. Cumming's report of 16th June, 1885. The Glen Innes Railway League were made acquainted with the result of this exploration, but it appears to have been considered that Mr. Cumming did not take the right direction, and, therefore, that a fresh exploration was desirable. This has now been made, with the result shown above.

Map and report appended hereto.

H. DEANE.

Ask for copy to be sent to Mr. Wright, M.P., and also to Messrs. Scarr and Price.—J.B., 23/7/90.

[*Enclosure.*]

Memo. to the Acting Engineer-in-Chief.

Exploration for Railway from Glen Innes to South Grafton *via* Coombadjha Creek.

Railway Construction Department, Sydney, 16 July, 1890.

In compliance with your instructions, I beg to inform you that I have examined the above proposed railway route, and I have the honor to submit herewith my report.

For the first 5½ miles the permanently-surveyed line would be adopted; thence by the head waters of Skelehn Creek to the head of the Glen Elgin Creek, crossing the main road near Bald Nob; thence for about 3 miles along east bank of Glen Elgin Creek; thence north-easterly through the heads of French's Creek, Fog Gully, and Bloor's Gully, and round head of Oaky Flat, immediately under "The Bluff," to bench-mark No. 10, on Mr. Warren's survey; thence across to Duff Creek, and up that creek to the top of "Haystack Spin"; thence along west side of Gibraltar Range to a gap in said range, about half a mile to the north of a tree marked "G.D." on boundary survey; thence through this gap 82 to the head of Coombadjha Creek, and along the south bank to its junction with South River; thence across this river and along its south bank to Clarence River; thence along south bank of Clarence River to join the permanent survey at Ramornie Station; thence along the permanent survey to South Grafton.

From the junction of the permanent survey with the Great Northern Railway to Glen Elgin Creek the country is comparatively easy, and there would be no works of any importance on this portion of the route. From Glen Elgin Creek to the gap in Gibraltar Range, a distance of about 18 miles, the route becomes more difficult, as the country is broken up into ridges and gullies, which would necessitate some deep cuttings, high banks, and perhaps one or two short tunnels.

The level of gap in Gibraltar Range was found to be 3,550 feet, and not 3,000 feet, as stated by Mr. Archibald in his letter to the Glen Innes Railway League of 4th May, 1890, and as the level of Glen Innes is 3,518 feet, this gap is a little higher than the latter place, instead of 500 feet lower, as represented. Up to this point, therefore, nothing has been done towards making the descent from the tableland of New England. The total length of the Coombadjhe Creek from the Gibraltar Range to its junction with the South River is about 25 miles, and the total fall in that distance 3,000 feet, and therefore nearly the whole of the descent is made along the valley of this creek, and if the fall of the creek was uniform there would be a continuous grade for 25 miles of 1 in 44. The creek, however, does not fall at a uniform rate, as, besides an abrupt fall of about 500 feet in 20 chains, the top portion of the creek falls more rapidly than the lower end.

As before stated, the gap in Gibraltar Range, which is the head of the creek, is about 3,550 feet above sea-level. The top of the falls, about 7 miles from the head of the creek, is 2,318 feet; the bottom of falls, about 20 chains further down the creek, 1,800 feet. At 15 miles from head of creek the level is 958 feet, and at junction of creek with South River, 543 feet.

Assuming the line to start with a cutting 50 feet deep on top of gap, and to have a gradient of 1 in 40 to the falls, the line at top of falls would be 258 feet above the bed of the creek, and from this point to the junction of the creek with South River, a distance of 18 miles, there would be a continuous grade of 1 in 48, and the line would be at an average height of about 600 feet above the bed of the creek. If the line could follow along the creek at a height of from 50 to 100 feet above its bed, the ground would be pretty favourable, except in a few cases where the spurs run close down to the creek; but as this is impossible, and as the mountains at higher levels rise abruptly and have numerous spurs and ravines running out from them, I consider that the country is quite impracticable for railway purposes at the level along which the line would have to be taken.

Where the proposed line crosses the South River there would be some difficulty in getting a crossing at right angles.

For the next 3 or 4 miles along the south bank of the Clarence River the works would be of a very expensive character, as the mountains rise very abruptly from the river, and the line would have to be constructed along a very steep sideling. From this point to the junction with the permanent survey at Ramornir, the works in some places would be heavy; but this section would, I think, compare favourably with a similar distance from Ramornir towards Glen Innes on the permanent survey.

It will be seen from this report that, in my opinion, the valley of the Coombadjhe Creek is an impracticable route for a railway, and I consider that it would be a waste of time and money to make a trial survey of this route.

W. HUTCHINSON.

No. 139.

Memo. by Mr. District-Engineer Hutchinson to The Acting Engineer-in-Chief.

Glen Innes to Grafton Railway.

Railway Construction Department, Sydney, 31 July, 1890.

I beg to submit herewith my report on Mr. Hook's proposed railway route between Newton Boyd and Glen Innes.

Briefly stated, Mr. Hook's proposal is to follow along the south bank of the Mann River, from its junction with the Henry River to Yellow Jacket Creek; thence up that creek to the Gap, where the main road leaves the creek and descends to Mitchell; thence under a high mountain range, by a tunnel about 1½ miles long, to Surveyors' Creek, or else to the same creek by following round the range under the "Organ Rock"; thence on to Yarrow River, cross this river, and on to Kingsgate Run and the Red Range, which is the level of the New England tableland.

To connect the permanent survey with this route the Mann River would have to be crossed at some convenient place above its junction with the Henry River. From this point to the Four-mile Creek the country is pretty level, and the works would be easy. At the Four-mile Creek the ascent to the tableland would begin, and from about the next 6 miles to the Mitchell Gap, where the main road leaves the creek, there would be a continuous grade of 1 in 40. On this portion of the line there would be some deep cuttings and high banks, but no serious engineering difficulties.

From the Mitchell Gap to Surveyors' Creek Mr. Hook proposes to tunnel through the mountain, and estimates the length of tunnel at about 1½ miles. I went over the top of the mountain, and estimate the length of the tunnel at about 3 miles, and therefore the only practicable way would be to go round

the

the range under the "Organ Rock." The works on this section would be very heavy, and in order to reach Surveyors' Creek at a suitable level the gradient for the greater part of the distance would require to be 1 in 40. From Surveyors' Creek to Yarrow River the country is very rough, consisting of spurs and deep gorges.

From Yarrow River to the table-land Mr. Hook describes the route in such a vague way that it is impossible to follow it. I found, however, that a trial survey had been made up the Yarrow River and on to the top of "Red Range," and in my opinion this survey is the only practicable way in which a line could be taken from the Yarrow River to the table-land.

This survey follows up the east bank of the Yarrow River over easy country to "Kingsgate" Station. It then crosses the river, and commences the ascent of the Red Range, and reaches the summit in a distance of about 7 miles. I followed along this survey, but thinking that I would be able to see the section of it on returning to Sydney, did not take any notes of levels or distances. On making inquiry at the Trial Survey Office, I found that all the plans and sections of the route were destroyed in the Garden Palace fire, and that no information about the route was in the office.

From the Yarrow River to the summit of Red Range there is a considerable rise, and I should say that for 6 or 7 miles there would be a continuous grade of at least 1 in 40. From the summit of Red Range to Glen Innes the country is comparatively level, and the works would be easy.

On the permanently-surveyed line between Mitchell and its junction with the Great Northern railway the total length of 1 in 33 grades is 8 miles 67 chains, and the works along the Mann River are of the most expensive character. On Mr. Hook's proposed route I consider that the gradients would be better, and, with the exception of the route from Mitchell Gap to Yarrow River, the country is more open and suitable for railway purposes.

I would suggest the advisability of having a survey made of the line from the Four-mile Creek to the top of the Red Range, as in the event of this portion of the route proving practicable it would be an easy matter to complete the survey at each end afterwards.

W. HUTCHINSON.

Memo. to The Acting Engineer-in-Chief, Railway Construction Department.

Sydney, 18 July, 1890.

In compliance with your request for a progress report, I beg to inform you that I have examined a portion of Mr. Hook's proposed railway route between Glen Innes and Grafton, and also the country between Yarrow River and Glen Innes *via* the Red Range, and although I have not yet had time to go fully into the matter, I believe that this route will admit of better grades than those on the first 26 miles of the permanently-surveyed line.

W. HUTCHINSON.

Re route for railway, South Grafton to Glen Innes.

Dear Sir, Hillgrove, Picton, 29 January, 1890.

When, on 25th instant, I gave to yourself and Mr. Firth some information on the above-named subject, Mr. Firth omitted to reduce my statement to writing, because, as he said, he could recollect it sufficiently for the purpose required. I fancy it is impossible for him to do so. I have, therefore, prepared a rough statement as a guide for anyone who may survey the said route, and which I herewith enclose.

Should any further explanation be desired, I shall still be prepared to give it if called upon.

I cannot spare time to engross the papers properly, and hope that you, or some other person, will be able to read my writing, and if you can hereafter allow a copy to be made and sent to me, I shall esteem it a favour.

Yours, &c.,

H. Deane, Esq. J. HOOKE.

Guide to find route on which to survey a line for a railway from South Grafton to Glen Innes, and reference to the main works required thereon.

To leave South Grafton at the point already surveyed for a railway line; to follow that line over the watershed between the Clarence and Terara Rivers; then at a convenient place to diverge from it, and proceed over easy country along near the present dray road to the bridge on said road across the Terara River, and avail of it for a railway bridge; thence by some deep cutting through long sandstone ridges on to the valley of Chambigne Creek; follow on by a gentle ascent over easily worked country up the northern branch of Chambigne Creek, to near the range dividing the fall of water up to the Terara from that into the Hooke or Nymboi River; thence by some deep cutting and a short tunnel through schists and loss trap under a gap on the range on to Doughboy Creek; thence by an easy descent and light work on the south side of that creek to the Hooke, Nymboi River, and by bridge across that river. At this point the river is about the same width as at the Buccarumbi Bridge, or perhaps less. If a railway were constructed by this route the bridge at Buccarumbi might be removed, and a road made along the western side of the Nymboi River from Buccarumbi to such suggested railway, in length about 9 miles, at no great cost, and would be quite sufficient for the requirements of Buccarumbi, Dalmorton, &c. Thence from the suggested new bridge by an easy descent along the southern side of the Nymboi River to Cungelbong Creek; and thence by an easy ascent along the southern side of that creek up to near the junction of its two main branches. Between the proposed bridge last referred to and this point there are several bluff points of spurs from the ranges abutting on the river and creek, which would require some deep and sideling cutting. At or near the junction of the southern and western branches of Cungelbong Creek, a bridge would be required over one or both, as found to be best; thence by a gentle ascent and easy route up the course of the western branch of Cungelbong Creek to the junction therewith of the Main Northern branch; thence by a still gentle ascent, but more work, up the course of that creek to the mountain range dividing the Cungelbong Creek from the Mann or Mitchell River; thence by some deep cutting and a tunnel, the latter perhaps 1½ mile in length, under the mountain, apparently composed of schist, trap, and perhaps gold, on to a small creek, name unknown, running in on the bottom side of the Mann or Mitchell River; cross that creek; thence by a deep cutting and sideling around a bend of the Mitchell River on to a flat on the Henry River; by a bridge across that river at a good place a little above its junction with the Mitchell. A short distance from Henry River a sideling along the foot of a sugar-loaf ridge at a bend of the Mitchell River. From the Henry River, by an easy ascent

along

along the southern side of the Mitchell River; and, with exception of the sideling just referred to, of easy work over loose soil to the Newton Boyd Four-mile Creek, which is a good place for a railway station as a depôt for the requirements of ascending the high land beyond; and also for Newton Boyd country. To cross the Four-mile Creek and flat on a raised way, in order to commence a greater ascent, and to admit of the present road traffic going underneath; thence across some rising ridges to Leather Jacket Creek; cross that creek and flat on a raised way for similar reasons mentioned at Four-mile Creek; thence along the north-western side of Leather Jacket Creek, on the side of a loose granite range, to where the dray-road at a long gap leaves the said creek and range, and falls down to Mitchell township and river at the foot of the "Big Hill." Over this said gap, which may may be called the "Mitchell Gap," and is perhaps over a quarter of a mile in length, a railway line should pass on a raised way for reasons similar to that suggested at Four-mile Creek and Leather Jacket Creek, and the material for raising the way could advantageously be obtained from a tunnel which should here be commenced. At this point there should be an elevation of about 350 feet attached above that at the Four-mile station, while by the surveyed route there cannot be more than 50 feet attached at the Mitchell township and foot of the "Big Hill," which is just abreast of this point. Whether my estimate before given of the elevation of Newton Boyd, and places westward thereof on to Glen Innes, be a fair approximation or otherwise, it is certain that by my suggested route a rise of about 300 feet can be attained at this point on Leather Jacket Hill more than can be attained at Mitchell township; and that whatever elevation there is to rise from Newton Boyd to Shannon Vale, my suggested line starts from Leather Jacket Creek, or Hill, with an advantage of about 300 feet over that of the surveyed line at Mitchell township, and has nearly double, or at least one-half, more distance in which to rise the remainder. At this point above referred to, the dividing ridge between the Leather Jacket Creek and Mitchell River rises abruptly several hundred feet on to a semi-table-land, the ridge leading on to a higher range on the south side, and the semi-table-land being flanked on the north side by a granite peak called now "The Organ Rock." This semi-table-land appears to be composed of loose material, the range referred to on the south being of trap formation, and the Organ Rock and its surroundings being of granite. From the raised way along the gap before referred to a tunnel of perhaps 1½ mile in length should be made under the said semi-table-land, to emerge on a creek I think called "Surveyor's Creek," coming partly from the said low table-land, and partly from the high range referred to above it, running with slight fall for a few chains, and then falling abruptly down a gorge into the Mitchell River. It will be well if this comparatively level portion of Surveyor's Creek can be attached by a tunnel, as it would favour an onward course, whereas, if the creek has to be crossed anywhere along the gorge referred to, the work of constructing a railway line would at this place be much greater. It is not absolutely necessary to construct a tunnel under the table-land referred to, as a sideling route might be made around the Organ Rock Range, which could reach the Surveyor's Creek in about 3 miles. Such a sideling would give the advantage of attaining a higher level at Surveyor's Creek than a tunnel would; but against that there would be disadvantages from danger of landslips along such a precipitous range. Although that might be guarded against to some extent by short tunnels through some of the most prominent points, which plan best to adopt could of course be ascertained by a survey of both. A tunnel appears to be most desirable. Taking up the running at Surveyor's Creek, much will depend on the elevation attained at that creek as to the work further on; but in any case, thence through gaps, deep cuttings, and high fillings-up, and probably one or two tunnels of no great length, on to Yarrow River; and an attempt should be made to reach this river as high up as a fair gradient will admit of, in order to ease the work beyond it. The Yarrow River is, where here referred to, all along a narrow gulf, and could be easily bridged, the way across it leading about west; thence from Yarrow River along through somewhat similar country as that indicated from Surveyor's Creek to Yarrow River, but of less extent, and requiring less labour, on to easier traversed ridges on the Kingsgate Run; and along over said ridges, continuing to maintain a good ascending gradient, on to the commencement of the rise to the Red Range; and along that rising ground to the Mitchell River; thence along side of the Mitchell River by sidelings and occasional deep cuttings; and it might be desirable, although not absolutely necessary, to make one or two short tunnels through the bluff points of spurs reaching out from the Red Range, on to the lower end of the Shannon Vale Run; thence by an easy gradient and light work over low ridges, and away from the river across a bend again to the said Mann or Mitchell River to a place where at stony points the banks are high on both sides of the river—this point is, perhaps, 1½ miles above the junction of the Skeleton or Skelton Creek; the point referred to is a good one for a bridge over the river—thence from said river by an easy gradient to ascend to the Main Dividing Range, at a depression thereon leading to the Ten-mile Hollow, the water from which falls into the Beardy Water under a mile above the Yarrowford Head Station. Through the Main Range above referred to some deep cutting would be required, but I do not think it would admit of a tunnel. From the Main Range above referred to a choice of routes may be taken:—(1.) By an easy descent, and with light work, along the north side of the Ten-mile Hollow to the point of a stony granite ridge abutting on the Beardy River, a little above Yarrowford Station; at this place the rivers narrow, with a flat on the west side thereof: Bounded by a high stony ridge corresponding with that on the opposite side—over this river and flat a bridge and a raised way, the latter on pillars, could be easily constructed—thence by an easy ascent, and light work, on to a depression in the watershed between Beardy River and Farruckabad Creek, or from the Main Dividing Range before referred to. (2.) By an easy descent, and light work, on the south side of the Ten-mile Hollow, to the Beardy River, at a place where the river is narrow, with high banks on each side thereof; this point is over a mile higher up the river than the point near Yarrowford, and is a better place for a bridge; thence by an easy ascent, and light work, with only one moderate cutting, to the depression in the ridge between Beardy and Farruckabad before stated. No. 1 is the shorter route, but would cost more for a bridge and a raised way than the other. No. 2 is the longer, but is the better place for a bridge. Either line could be easily constructed. Going back to the depression on the watershed between Beardy and Farruckabad before stated; and thence by an easy descent, with some light cutting, through low ridges into the town of Glen Innes. I do not know in what part of the town the railway station is, but wherever it may be, as far as the features of the country are concerned, it can be easily reached from the depression in the watershed last referred to.

Addendum.—In comparing this suggested route with the surveyed line it may be said:—(1st.) Of the lower portion thereof (*a*), that it would save an expensive bridge over the Uralas; (*b*) that a bridge across the Nymboi would cost less than a bridge across the Mitchell; (*c*) that with slight cost for a track from

Buccarumbi to opposite Doughboy Creek, it would render available the material of the Buccarumbi Bridge; (*d*) that it would be many miles shorter than the surveyed line from South Grafton to Newton Boyd country, and would cost less to construct, except (*e*) the cost of an expensive tunnel. 2. Of the upper portion thereof (*a*) the distance between Newton Boyd country and Glen Innes, or Yarrowford, as it may be, is much the same in either case; (*b*) the permanent way of the suggested route would be more costly to construct than the surveyed line would; (*c*) the suggested line would save a station for Yarrowford; and last and greatest of all (*d*), that the suggested route would give a much easier gradient to ascend to the table-land, and be much safer and cheaper to work throughout all time than the surveyed line would.

H. Deane, Esq. J. HOOKE.

Mr. Firth.—W.H.Q., 3/2/90. This had best be handed over to Mr. Hutchinson before he starts, and perhaps he will commit it either to memory or paper.—T.R.F., 4/2/90. Mr. Hutchinson.—W.H.Q., 5/2/90.

Hon. Bruce Smith, Minister for Works, Sydney,— Hillgrove, Picton, 7 January, 1890.

Sir,

Referring to a letter from your department, No. 89-3,683, dated 23rd December, 1889, *re* my offer to indicate a route for a railway from Grafton to Glen Innes, and stating that "Mr. Secretary Bruce Smith will be happy to receive any information on the subject you may wish to offer," I have now to request (as intimated in my letter of 14th December) that you name a time and place at which you will be prepared to receive the information I can offer, and I beg to respectfully suggest that at such time you be attended by a surveyor, who, in the event of its being decided on to make a trial survey of the route I will describe, will be deputed to make such survey. If the surveyor has already been over the country, if only by the road, all the better. Any surveyor would be much better fortified by a personal interview with me under your or Mr. Barling's instructions than he could possibly be from any written statement of my description, however explicit it might be, if it were otherwise supplied to him.

I am, &c.,

J. HOOKE.

Acknowledge, and inform that at any time he calls Mr. Deane has been instructed to go into the whole matter with him.—B.S., 11/1/90. J. Hooke, Esq. Mr. Deane.—D.C.McL., *pro* U.S., B.C., 13/1/90. Seen.—H.D., 17/1/90.

Hon. Bruce Smith, Minister for Works,— Hillgrove, Picton, 14 December, 1889.

Sir,

The Clarence River newspapers show that there is still an agitation for a railway from Grafton to Glen Innes.

I know the country between these places well, and could indicate an eligible route for a railway that would be about 10 miles shorter than the surveyed line, and although it would require two long tunnels, it might not cost more, or even so much, to construct as the said surveyed line would, while it would admit of a much easier gradient to ascend to the table-land, and be easier and cheaper to work throughout all time.

Should you feel disposed to receive the information I can give on the subject, I will, after due notice, wait upon you at any time you may appoint.

I am, &c.,

J. HOOKE.

Thank, and send to Mr. Deane for any remarks he may have to make.—B.S., 16/12/89.

I see no objection to hearing what anyone has to say on this matter. A surveyor will be sent up after the new year, to investigate the route recommended by Mr. Greaves, late District Surveyor.—H.D., 18/12/89.

No. 141.

Minute by the Acting Engineer-in-Chief for Railways to The Under Secretary for Public Works.

Subject:—Glen Innes to Grafton.

Department of Public Works, Railway Branch, Engineer-in-Chief's Office,
Sydney, 11 August, 1890.

When proceeding to inspect the proposed Coombadjha Creek route between Grafton and Glen Innes, which lies to the north of the permanently-staked line, Mr. District-Engineer Hutchinson had Instructions to examine also that proposed by Mr. Hooke, the position of which is on the south side.

The part of this route which deserves chief attention is that near the Glen Innes end, as it would be the means of cutting out the almost impracticable ascent of the Mann River, between 8 and 21 miles from Glen Innes, with its steep sidelings, sharp curves, and 1-in-33 grades.

Mr. Hooke's line involves a tunnel 3 miles in length, between Yellow Jacket and Surveyor's Creek. Mr. Huthinson finds, however, that this can be avoided by going round the hill. The result of the exploration is that Mr. Hutchinson has found a route which, in my opinion, deserves further investigation by survey, as it seems almost certain that the ruling grade will not be steeper than 1 in 40, as against 1 in 33 on the present line, and the country traversed is much more suitable for railway construction.

Part of Mr. Hutchinson's line coincides with that of a trial survey made in 1875, but which was abandoned, apparently because it was found impossible to get down into the valley of the Mann near the junction of Surveyor's Creek, instead of continuing the line on, as shown in blue on the map.

I have the honor to recommend that a trial survey be made of the route between the junction of the Four-mile Creek and the table-land, a distance of about 20 miles, as this will be sufficient to test its value.

H. DEANE,
Acting Engineer-in-Chief.

Mr. Hutchinson's report and plan forwarded herewith.

List for trial survey to be made.—B.S., 12/8/90. Approved by Minister's order, No. 2,135.—D.C.McL., 14/8/90. B.S.

No. 143.

Memo. to The Acting Engineer-in-Chief, Railway Construction Department.

Sydney, 20 August, 1890.

A PORTION of Mr. Hooke's proposed railway route from Grafton to Newton Boyd was examined by the late Mr. Surveyor Francis, whose report, briefly stated, is as follows:—

From South Grafton to the Orara River the country presents no difficulties, the first work of any importance being a bridge over that river. The route then follows up the valley of the Chambigne Creek, and for the first 10 miles the works would be easy and the grades good; for the next 2 miles there would be more work, and a continuous 1-in-40 grade. The line would then go through the Buccarumbi Range, with a tunnel about a mile long, and come out on to Doughboy Creek; thence down that creek to the Nymboi River, over favourable country. At this point the route examined by Mr. Francis diverges from that described by Mr. Hooke. Mr. Francis followed up the Nymboi River to Buccarumbi, and thence up the north bank of the Little River to Broadmeadows, a distance of 30 miles, over country of the most difficult description. From Broadmeadows to Newton Boyd two tunnels would be required, each about 40 chains long, otherwise this section would not be difficult. In concluding his report, Mr. Francis said, "The route between Grafton and Newton Boyd explored by me, and described in this report, does not appear to me to possess any advantages over the route already surveyed. On the contrary, I am of opinion that a survey would prove it to be more costly."

Continuing Mr. Hooke's line from the Nymboi River, he proposes to cross the river near its junction with Doughboy Creek, and follow it down to the Cunglebung Creek; thence up that creek as far as practicable; then tunnel through the mountain dividing the Cunglebung from the Mann River; and thence along the Mann River to the Four-mile Creek, opposite Newton Boyd. Mr. Hooke states that on this route there would be some deep and sideling cuttings, and a tunnel about 1½ mile long through the range dividing the Cunglebung Creek from the Mann River.

W. HUTCHINSON.

I have already reported on what I consider the most important portion of Mr. Hooke's suggested route, namely, that which would have the effect of cutting out the almost impracticable part of the staked line between 8 and 21 miles from Glen Innes, with its sharp curves and long grades of 1 in 33. With regard to the part between Grafton and Newton Boyd, about half of this had already been reported upon by Mr. Surveyor Francis, with the result that, with the exception of a tunnel 4 miles in length, no great difficulties would be found there. The second half, however, of this portion of Mr. Hooke's route is different. At the Newton Boyd end there would be serious difficulties, and I believe that the staked line would be found to be much cheaper to construct, although it may be longer, and to have much better grades.—H.D., 21/8/90. Under Secretary.

No. 148.

Petition.

[Forwarded by J. See, Esq., M.P.]

To the Honorable the Minister for Works, Sydney,—

Sir,

We, the undersigned residents of the Grafton district, humbly submit that for many years the people of this district have been promised a railway from Grafton to New England, but the engineering difficulties in ascending the table-land have been of such a character as to necessitate careful and lengthy investigations as to the best route to adopt.

Understanding that you have now completed most exhaustive inquiries on this question, and that you are now satisfied you have discovered a practicable route, we, your humble petitioners, most humbly pray that you will submit to the Public Works Committee a railway from Grafton to New England by such route as you consider most practicable at the earliest date possible, with a view of having the line constructed without further delay. And we, as in duty bound, will ever pray.

[*Here follow signatures.*]

John See, 16/1/91. Will Mr. Deane please report what progress has been made in this investigation.—J.B., 16/1/91.

The Guyra to Grafton survey is still in progress; 124 miles out of about 150 completed. Tenterfield to Casino—One survey just commencing; another will follow as soon as possible. Grafton to Glen Innes to be further tested. A surveyor instructed to do this.—H.D., 22/1/91. Under Secretary.

Best to inform that the surveys are not yet completed, and that until they are it will be quite premature to come to any decision on the subject.—J.B., 23/11/91. Approved by Minister, Order No. 412.—D.C.McL., 6/2/91. Inform.—J.B., 7/2/91.

John See, Esq., M.P.,— Department of Public Works, Sydney, 10 February, 1891.

Sir,

With reference to the petition presented by you on the 16th ultimo, from residents of the Grafton district, in regard to the construction of a railway from Grafton to New England, I am directed by the Secretary for Public Works to inform you that until the necessary surveys now in progress are completed it would be quite premature to arrive at a decision upon the subject.

I have, &c.,
J. BARLING
(*Per* D.C.McL.),
Under Secretary.

No. 149.

No. 149.

Mr. Surveyor Little to The Engineer-in-Chief for Railways.

Glen Innes to Grafton.

Sir, Camp, Red Range, 15 February, 1891.

I have the honor to acknowledge receipt of Mr. Burge's memo. of 12th instant, this day (Sunday), and beg to state that I have ridden over the country between the Red Range and the Four-mile Creek, at the junction with the Mann River, with guide Finlay M'Killop, and arrived back at camp at the Red Range on Friday evening. This part of the work would have been completed sooner had it not have been for the very wet weather that we have experienced, and consequently caused the delay, as it rained from the 6th to the 9th almost continuously. We left the camp at Red Range on the 10th, and our progress was greatly impeded by misty and showery weather and the rough country. I followed along Mr. Hoyle's route as well as possible, and from the barometrical heights which I took, am doubtful as to whether a practical line can be got in this direction (on account of the wet and misty weather the barometrical readings would not give satisfactory results as regards correctness of heights), as the descent from the table-land at the Red Range is very rapid from near John Marshall's selection, No. — of portion 4, in the parish of Kingsgate, county of Gough, round a peak known as "Larkins' Peak," and thence under Gibraltar Rock to Kingsgate. It would be impossible to get round this peak (Larkins' Peak) without using very sharp curves, steep grades, and heavy works, as the spurs are narrow and the watercourses deep and broken. However, it might be accomplished by a tunnel from 40 to 60 chains in length, and on a descending grade of at least 1 in 40 for about 5 miles, and thence on to Kingsgate or Yarrow Creek. When I reached the Kingsgate Creek I went in search of a more practicable route, and followed up a creek known as Sheep-station Creek, from its junction with the Kingsgate, at the old station called by that name. The creek referred to has an easterly course, and rises in a mountain called Blair Mountain, about 12 miles distant from Stonehenge, on the Main Northern Railway, south of Glen Innes. There is a gully, which has an easy descent from the table-land, near Mr. Ballard's selection, and runs into Sheep-station Creek. This is the route I intend trying down on to the Kingsgate Creek, and then follow the line suggested by Mr. Hutchinson. This route, I think, will give better results as regards earthworks and works in general, but a 1-in-40 grade for about 5 miles, which might be worked up to better advantage when a thorough trial survey is made.

From Surveyor's Creek to the Organ Rock, or locally known as "Tommy's Peak," the descent is very rapid, and it appears to me that the grade would be at least 1 in 40 for a continuous distance of about 9 miles on to Leather Jacket Creek. This is the route round the river, and the works would be very expensive and heavy.

I do not think it possible to get a line from Surveyor's Creek to Leather Jacket Creek by tunnel, as described by Mr. J. Hooke, as the tunnel would be fully 3 miles long, if not more, as stated by Mr. Hutchinson, and on a continuous grade of at least 1 in 30, from observations taken, and the only practicable route between these two points, in my opinion, would be by following the river (Mann River).

The average fall of Leather Jacket Creek (not Yellow Jacket Creek) is about 1 in 25; but by skirting the sidelings and crossing the creek a couple of times a practicable grade could be got. From the Junction of Leather Jacket Creek with the Mann River to the Four-mile Creek there is no serious difficulty.

To-morrow (Monday), 16th instant, I hope to start a flying survey along route mentioned, and will push along as rapidly as possible, and hope to be completed in about five weeks' time.

I have, &c.,

A. GEO. LITTLE.

Mr. Burge.—H.D., 19/2/91.

I saw Mr. Little at Glen Innes on the 26th ultimo, though I had not the opportunity of seeing the ground. From his description, after exploring different routes, he finds that one known as Hoyle's, is the only one likely to lead to any result. He is running a vertical and horizontal traverse on this, and has got about half-way down at 1 in 40, over very rough ground indeed. There appears to be a spur called "Larkins' Peak," which Mr. Little's line would pierce by a tunnel. It has occurred to me that by extending this part of the line into a spiral, mostly underground, of (say) 12 chains to 15 chains radius, about 70 chains to 90 chains additional length would be gained, and (say) 100 feet dropped down at one point. This, though it would undoubtedly be an expensive expedient, might make an otherwise impossible line below practicable; but nothing can be said on this point till further information is to hand. I have, however, instructed Mr. Little to have in view the lowering of the line in this way as he carries on his operations downwards.—C. O. BURGE, 5/3/91.

Put by.—H.D., 12/3/91.

No. 150.

Mr. Surveyor Little to The Engineer-in-Chief for Railways.

Glen Innes to Grafton.

Sir, Camp, "The Big Hill," *via* Glen Innes, 17 March, 1891.

I have the honor to report progress on this survey, and beg to state that I have got down to Surveyor's Creek, being a total length from the point of starting of 17 miles.

The works, as far as I have gone, will be exceedingly heavy, and think that there will be a possibility of obtaining a 1-in-50 grade maximum when the line is thoroughly worked up. I have taken cross-levels on 10 miles of this length, so that when the plan and section are plotted a line can be struck out. The crossing of Surveyor's Creek is a heavy feature in the line, as the southern side has to be traversed some distance in an easterly direction, and then cross to the northern side, with a 12-chain radius curve and viaduct fully 100 feet high; and thence in a westerly direction till the eastern side of the Mann River is reached; and then that river has to be hugged right along its course.

A. GEO. LITTLE.

Mr.

Mr. Burge.—H.D., 19/3/91.

From Mr. Little's reports, written and verbal, it is clear that the great difficulty here is not so much the grade as the expensive works to be met with, which can only be avoided by exceeding the standard curvature and following surface more closely. It appears to me that if this railway is to be made at a reasonable cost, and, I presume, otherwise it will not be proposed, it can only be done by adopting sharper curvature. Except for the passenger portion, for which change of vehicle would in any case be made at Glen Innes, the traffic of this line would not be through to Sydney, but mainly from coast to table-land, viz., to Queensland border on the north, Inverell on the west, and (say) Armidale on the south, covering about 280 miles, and it appears to me that it is worth consideration whether sharper curves, with the provision of special rolling-stock adapted to them, might not be justifiable in connection with such a considerable length of traffic as this. The Ceylon railways, with a gauge of 5 ft. 6 in., have numerous curves of 5 chains radius, with 1½-chain intervals, on 1 in 50 grades, easily worked at 12 miles per hour by bogie stock (6 feet rigid wheel-base), as a rule, but actually taking ordinary trucks 7 ft. 6 in. wheel-base. It is clear that the adoption of such curves as these might make this line possible, and, by enabling the distance to be lengthened, reduce the 1 in 50 grade contemplated by Mr. Little; also, by reducing cuttings, make slips less likely.—C. O. Burge, 20/3/91.

Glen Innes to Grafton.

The Engineer-in-Chief,—

Sir, 17 March, 1891.

I have the honor to state that I am this day shifting my camp from Kingsgate to the foot of the Big Hill, on the Main South Grafton Road, which will be my last main camp, as I can finish from this camp with temporary camps, as I have had to do on this length. The distance from the camp I have just left is about 12 miles to the Big Hill (at Mitchell), but have to travel a distance of 50 miles to reach that place with bullock team. The country being too rough to pack any more than 1 cwt. on each horse, it will take three days to get round with the team, and expect to reach there by Thursday next, 19th inst., providing it does not rain too heavily, as it is raining at present, and every appearance of it continuing.

I have, &c.,

A. GEO. LITTLE.

In the meantime the usual course should be adopted for the sake of comparison with other lines to the coast.—H.D., 21/3/91. Mr. Burge. Noted.—C. O. Burge, 23/3/91.

No. 151.

Mr. Surveyor Little to The Engineer-in-Chief for Railways.

Sir, "Big Hill," 6 April, 1891.

I have the honor to acknowledge receipt of memo. 91-171, also telegram on the 5th inst. Referring to the subject of this memo., I respectfully beg to state that the work I have done on this survey is, I think, sufficient to obtain an estimate of probable cost, grades, curves, and works.

I have taken a through section, also cross-levels for the whole length, with the exception of the first 4 or 5 miles at the Red Range, so that a moderately accurate section can be obtained by striking a line through these cross-levels. The direction of route, I am certain, is the only possible one to connect the low land with the table-land, and as the nature of the country is so confined, is impossible to diverge more than a few chains either side of traverse run. Beyond where the Leather Jacket Creek junctions with the Mann River, do not think it necessary to continue the traverse, as this portion presents no difficulties, only slightly undulating, and no serious fall. I have not had time to plot my work up thoroughly, but have plotted my traverse and part of the section for nearly the whole distance I have gone, which is the most difficult portion. Weather permitting, I hope to have finished the whole of the necessary length on the 14th inst.

It will take a week or ten days to complete the plotting of plan and section.

I have, &c.,

A. GEO. LITTLE.

Mr. Burge.—H.D., 7/4/91.

Mr. Little appears to have obtained more particulars towards getting data for an estimate of this line than his previous reports would indicate. Having these, should Mr. Little, on sending up his plans for revision, remain on the ground with the view of working them up into a regular trial survey, so as to bear proper comparison with the trial survey now being begun, Casino to Tenterfield? Perhaps the Acting Engineer-in-Chief has already personally instructed him. I imagine that by the time Mr. Little sends up his plans there ought to be very little left to do on the Inverell line.—C. O. Burge, 11/4/91. Acting Engineer-in-Chief, Grafton.

You will understand from my telegram that I had already instructed Mr. Little to run a line from top of Red Range into Glen Innes so as to permit of through section and estimate being completed.—H.D., 14/4/91. Mr. Burge.

Yes.—C. O. Burge, 20/4/91.

No. 153.

Mr. Surveyor Little to The Engineer-in-Chief for Railways.

Glen Innes to Grafton.

Sir, "Weetaliba Run," *via* Mudgee, 25 July, 1891.

In compliance with memo. 91-612, I have the honor to report finally upon the flying survey of portion of the line Glen Innes to Grafton, viz., Glen Innes to the Four-mile Creek, *via* the Red Range. Starting at a point on the Main Great Northern Railway, at 320 miles 43·10 chains, and about 2½ miles to the south of the Glen Innes station. From the junction with the main line this survey has an average easterly bearing to the Red Range, and goes through good agricultural and sheep pasture lands of a basaltic nature, undulating, and moderately easy works.

On this portion there are two rivers to cross, viz., Beardy and Mann Rivers, each of which will require a substantial bridge of from 3 to 4 chains in length, and from about 30 to 40 feet in height respectively, so as to carry off the flood-waters, which flow in a good body. Each river drains a considerable area of country. There are also four small creeks, but would not require more than medium timber openings.

The

The descent of the Red Range (summit of table-land) starts at the crossing of Oakey Creek, and near its source, and at corners of portions 32–34 and 11, owned and occupied respectively by John Marshall and Benjamin Goodwin, in the parish of Red Range, and county of Gough, and follows the course of that creek on its eastern slope to a saddle in the range called Sandy Camp, on the slope of Larkin's Peak; thence along the slope of the range, crossing Rusden's Gully, and through Allan Ballard's selection (No.—, parish of Kingsgate, county of Gough), at the foot of a bluff of rocks known as Gibraltar; thence crossing Yarrow Creek, near the junction of Sheep-station Creek with that creek, at the old Kingsgate Station; thence in a northerly course along the eastern slope of the Mann River, crossing Surveyors' Creek on a curve; thence on to crossing the Main South Grafton Road at about 1½ miles to the east of the bridge crossing the Mann River at the foot of the Big Hill (village of Mitchell); thence along this river for about 3 miles, and crossing the river and joining the originally permanently-staked line at about 30 miles from Glen Innes. I also ran a traverse along the main road to show (as an alternative) the practicability of a line down Leather Jacket Creek (as reported on by Mr. Hutchinson), which would necessitate a tunnel of from three-quarters to 1 mile in length, so as to get through the spur of the range which forms the watershed of the Mann River and Leather Jacket Creek: thence on and crossing that creek, and following its eastern slope to near where it junctions with the Mann River, and following the direction of the main road to Newton Boyd, &c., and crossing the Mann River near the junction of the Four-mile Creek, and joining the permanently-staked line.

I only carried my survey as far as the junction of the Leather Jacket Creek with the Mann River, as from this point on to the Four-mile Creek there is no serious difficulty.

The grade of 1 in 50 as maximum will necessitate very heavy and expensive works; and from the beginning of the descent from the summit of the Red Range, going around Larkin's Peak, a succession of sharp curves will have to be used on account of the sharp and narrow spurs that run from the range, and to obtain this grade it will necessitate, as suggested by Mr. Burge, a spiral tunnel from 70 to 90 chains in length, which length of tunnel, when set out, would, I think, be reduced, as the nature of this portion of the mountain offers facilities for reducing the length of tunnel and easy construction of this undertaking. From this point on to the end of my survey the works in general will be exceedingly heavy, as the ground is of such steep sideling, and consisting of a succession of narrow and broken spurs, which cannot be traversed with reasonable radii curves, consequently the cuttings will be deep and numerous, and steep banks.

In the construction of this line it will have to be borne in mind that owing to the rotten nature of this portion of the country (principally rotten granite) that special works will have to be carried out to secure the safety, and prevent enormous land-slips, which I have witnessed while carrying out this survey.

Although the route *via* Leather Jacket Creek would probably be more costly than the one *via* the river, I would suggest the former route, as the works would be of a less dangerous nature, as the ground is more solid, and no very steep sidelings, as on the route *via* the river.

The country from the Red Range to Newton Boyd is mostly used for cattle pasture, and there is no doubt as to the immense mineral wealth within this radius. Gold and other mineral reefs are being worked within a few miles of this route, viz., Dalmorton and other fields, consequently, opening up a large extent of mineral-bearing country.

General Summary.

Bridges.—There will be required, at least, five large bridges, viz., Beardy River, Mann River (first crossing), Yarrow Creek, Surveyors' Creek, and Mann River (second crossing), and probably one at Rusden's Gully, with numerous timber openings and waterways.

Earthworks.—Exceedingly heavy; 50-foot cuttings and banks numerous.

Tunnels.—Owing to the nature of the country, numerous tunnels will be required to obtain the necessary grade and avoid dangerous sidelings.

Ballast.—Basaltic rock; very good and plentiful.

Timber.—Over the portion of this length I saw very little timber suitable for railway purposes; but ascertained that first-class timber (ironbark and red gum) abounds in quantity.

Brick soil.—The soil between Glen Innes and the Red Range is apparently good brick-making soil.

Water supply.—Plentiful, and easy stages.

Carriage.—The cost of cartage on this line for construction will be an expensive item, owing to the roughness of the country, and long distances have to be travelled to attain short distances.

Grade.—Ruling grade, 1 in 50.

Curves.—Limit, 12 chains radius.

I have, &c.,
A. GEO. LITTLE.

No. 154.

Memo. to Engineer-in-Chief.

Glen Innes to Grafton.

Department of Public Works, Railway Construction Branch, Sydney, 15 September, 1891.

In making a rough estimate of the original survey of the above, when not deviated from by Mr. Little's flying survey, which has a ruling grade of 1 in 50, I find four or five lengths (about 4¾ miles in all) of 1 in 40, which can be only properly cut out by survey.

There is also at the Grafton end, adjoining the Clarence, a good many deep creeks, crossed necessarily at a very high level, and at great expense, to be above Clarence River flood backwater. Possibly, deviations to avoid them, even with rougher earthwork sections, would reduce cost.

If a fairly trustworthy comparison with the other New England and coast lines is desired, should not a surveyor be sent to investigate the above?

The quantities on this portion were taken out and disposed for a 15-foot base. Shall I regrade for an 18-foot base, which is that on which the upper portion is estimated?

This lower end also of the line would seem to give scope for great reduction in cost by the adoption of exceptionally sharp curvature, as already advocated (91–1,298), for this line, in view of the great length of the traffic covered, warranting an otherwise unjustifiable provision of special rolling-stock.

C. O. BURGE.

No. 155.

No. 155.

Memorandum to The Engineer-in-Chief.

Glen Innes to South Grafton, *via* Big Hill and Red Range.

Department of Public Works, Railway Construction Branch,
Engineer-in-Chief's Office, Sydney, 8 October, 1891.

In forwarding herewith estimate of above, I draw attention to following :—

The deviation *via* Red Range made by Mr. Little is of the nature of a flying survey only, and the estimate for this part may be largely increased or diminished when a more detailed survey is made.

As regards the rest, the estimate is based on the existing permanent survey, and as this was originally graded for a 15-foot base, the 18-foot base now taken gives an enormous quantity of spoil, probably a million and a half cubic yards, say £200,000 which might be saved merely by regrading. There are also, as already pointed out to you (91–4,288), several lengths of 1 in 40, while the deviation *via* Big Hill is graded to 1 in 50, and the line appears otherwise capable of improvement.

Probably the present estimate is, on the whole, considerably in excess.

Heavy rails are provided for.

C. O. BURGE.

No. 158.

F. A. Wright, Esq., M.P., to The Secretary for Public Works.

Sir, Legislative Assembly, 29 February, 1892.

I notice by to-day's papers that a survey and estimate of the cost of constructing a railway between Guyra and South Grafton has been completed, and I understand that there is a survey and estimate of the cost of a line between Tenterfield and Grafton also being carried out.

In view of the fact that the railway survey of the Glen Innes-Grafton line is a very imperfect one, and that the estimate of the late Engineer-in-Chief was only a guess, may I ask that the country between Glen Innes and Grafton be also explored, surveyed, and the cost of the railway properly estimated. The railway surveys of this line are very imperfect. This is shown to be the case by a very great improvement made upon a portion of the line by subsequent surveys, and a thorough survey of the whole of the line would, I am convinced, still further improve it, and reduce the ridiculously high estimate of cost made by Mr. Whitton.

As the question of the construction of the line between the west and the coast is one that cannot be immediately dealt with, it is well to have a perfect examination of the country, and the projected routes carefully surveyed and reported upon. As this has been done in the case of the Guyra-Grafton line, and is in course of being done with the route from Tenterfield to Grafton, I have to ask, on behalf of the district I represent, Glen Innes (which is immediately west of Grafton), that the same consideration be extended to that route as to the other places, and that you will give the necessary instructions for the Engineer-in-Chief to have a new and complete survey of the line Grafton to Glen Innes and an estimate of the cost of constructing same obtained.

Yours, &c.,
F. A. WRIGHT.

Will Mr. Deane kindly say how this matter stands.—J.B., 2/3/92.

The survey Guyra to Grafton has been completed, and estimate made, as already reported. The survey Glen Innes to Grafton was completed along a certain route, and permanently staked, but a portion of this line has been since much improved, the heavy grades and sharp curves having been cut out. No proper estimate was ever made of this route, Mr. Whitton refusing to give one till the line had been completely staked and cross-sectioned. There are other parts besides that which have been cut out which, I believe, could be much improved, and if a fair comparison is to be made between this route and that from Guyra, it is most desirable that the other parts of the Glen Innes-Grafton line should undergo revision. On the other hand, of course, if the Glen Innes-Grafton route is condemned, on other considerations this work would be unnecessary. There is no survey being made between Tenterfield and Grafton, but between Tenterfield and Casino, the latter line making a junction with the Grafton-Casino line about 10 miles south of Casino.—H.D., 4/3/92. Under Secretary.

Submitted.—J.B., 11/2/92. This must stand over for the present.—W.J.L., 12/3/92. Inform.—J.B., 14/3/92. F. A. Wright, Esq., M.P., 21/3/92. Mr. Deane.—D.C.McL., for U.S., B.C., 23/3/92. Seen.—H.D., 24/3/92.

Sir, 21 March, 1892.

With reference to your letter of the 29th ultimo, urging that the country between Glen Innes and Grafton be explored and surveyed, and that a proper estimate be prepared of the probable cost of the construction of a line of railway, I am directed by the Secretary for Public Works to inform you that the consideration of this matter must stand over for the present.

I have, &c.,
J. BARLING,
Under Secretary.

No. 159.

F. A. Wright, Esq., M.P., to The Secretary for Public Works.

Sir, Legislative Assembly, 6 April, 1892.

On the 29th February I wrote you asking for a re-examination and survey of the line of railway between Glen Innes and Grafton, and on the 21st March received a reply that the matter must stand over for the present. Allow me to again bring this matter under your notice, and to urge the granting of my request.

I am quite well aware that the proposal to connect the Northern Railway with the seaboard is a work that cannot be undertaken for some time to come, but as a very careful examination and survey of the line from Guyra to South Grafton has been made, and I understand there is one now in course of completion

completion between Tenterfield and Casino, to connect with the Grafton-Tweed Railway, I think, in justice to Glen Innes, the same attention should be bestowed on the Glen Innes-Grafton route. The expense would not be very heavy, and I know of my own knowledge that the first examination of this line was of a most crude and imperfect description, and, from many sources of information, I believe a re-examination and resurvey of the whole route would result in the discovery of a very much better line of communication, and through much better country than the original one passed through.

In a conversation I had some months ago with Mr. Wm. Val Miller, the Roads Superintendent at Glen Innes, he gave me to understand that he himself could find a much better route than that originally surveyed, and that if he could get some little assistance in his office he could devote a greater portion of his time to the exploration of this line, and a survey of it could be accomplished at comparatively small cost to the Department. Mr. Miller has had considerable experience as a railway surveyor, and understands, I believe, thoroughly what he is talking about. This, I think, is worthy of your consideration, as it may mean minimising the cost of this work.

Trusting I shall shortly be favoured with a reply, notifying me that you have approved of my application for re-examination and survey of the line of railway in question.

I am, &c.,
F. A. WRIGHT.

Mr. Deane for report.—D.C.McL. (*pro* U.S.), B.C., 11/4/92.

No. 160.

Minute by The Engineer-in-Chief for Railways to The Under Secretary for Public Works.

Subject :—Glen Innes to Grafton.

Department of Public Works, Railway Construction Branch, Sydney, 13 April, 1892.

In reference to the annexed, please see my minute on Minute Paper 92-1,278, as to the possibility of improving the line; there is no doubt in my mind that it can be done to a considerable extent.

A portion of the original survey was dealt with last year, with the result that by the adoption of a deviation the ruling grade for this length was made 1 in 50, as against 1 in 33.

On other parts of the original survey there are grades of 1 in 40, which, I believe, can be cut out. To say the least, the survey is, in my opinion, an unsatisfactory one, and requires revising.

As to the possibility of finding a route entirely different from the one in question, I am extremely doubtful. Deviations of portions would probably suggest themselves, but hitherto all attempts to find any other practicable route, except that by the Mann River, have failed.

If the Honorable the Minister approves of this revision of the survey, there are enough surveyors in this Department to do this work without seeking assistance outside. At the same time, I shall be extremely glad to receive any information which might lead to the discovery of a better line.

H. DEANE,
Engineer-in-Chief.

Submitted.—J.B., 20/4/92. Revise survey.—W.J.L., 27/4/92. Mr. Deane, and inform.—J.B., B.C., 28/4/92. Please see me about this.—W.D., 2/5/92. Assistant Engineer for Trial Surveys.

Done. It was arranged that Mr. Cumming will undertake this on completion of his present work, which will be almost directly, and that I shall visit the locality myself as soon as I can get away from Sydney.—C.O. Burge, 5/5/92. The Engineer-in-Chief.—W.D., 10/5/92.

I find that there is a very carefully cross-levelled plan of this line, independently of the permanently staked one, and I went through this very carefully at Grafton with Mr. Cumming, laying out deviations through the cross-levels, resulting in the obtaining of 1 in 50 grades, without any difficulty, at the four places where steeper grades occur. As to getting a better section at the Orara River and at Cattle and Nobby's Creeks, that is doubtful, but Mr. Cumming is to test these. With regard to the precipitous portion, between where Mr. Little's descent of the Big Hill from Glen Innes ends, to 69 miles from Glen Innes (original mileage), between which latter and Grafton Mr. Cumming is to work, the cross-levels show that it is very possible that the very long tunnels may be reduced and cut out. A young and active surveyor alone should be detailed for this work, as no other would be of any use. I am sure that the employment of curves of 5-chain radius with a special engine stock for the considerable length that this connecting line covers would reduce the cost of it enormously, as suggested by me in 91-1,298.—C. O. Burge, 30/7/92.

Perhaps Mr. W. Kennedy might be told off for this.—W.D., 2/8/92. Assistant Engineer, Trial Surveys. Mr. W. Kennedy instructed.—C. O. Burge, 3/8/92.

No. 161.

Minute by The Secretary for Public Works.

Subject :—Railway communication between Inverell and Grafton.

Department of Public Works, Sydney, 29 July, 1892.

In the course of the representations made by the deputation introduced by Mr. F. A. Wright, M.P., and accompanied by Mr. Alex. Hutchison, M.P., which waited upon the Colonial Treasurer and myself at Glen Innes on the 27th instant, in favour of the construction of a railway from Glen Innes to Inverell, reference was also made to the proposal to continue the line from Glen Innes to Grafton.

I said that in my opinion there was at present no justification for the construction of a line from the table-land to the coast, which would necessitate a very heavy expenditure, but that I was quite prepared to have a thorough exploration of the route made. W.J.L.

Mr. Deane.—J.B., 8/8/92. This matter is being attended to.—W.D., 15/8/92. Under Secretary, B.C. Put with papers, 15/8/92.

No. 163.

Mr. J. Cumming to The Engineer-in-Chief for Railways.

South Grafton and Glen Innes Railway.—Proposed route *via* Washpool Creek.

Sir, South Grafton, 28 September, 1892.

I have the honor to report that I have gone over the proposed line *via* the Washpool Creek to about 8 miles from its junction with the Clarence. Mr. Penrose, manager of Yugilbar Station, is the only one who knows this route, and he was laid up with cold and influenza when I was at his place last Sunday. He is willing to go over it about the end of November, the weather at present being very cold and stormy.

The ascent to the table-land must be explored on foot, as the country is too rough for riding. It is better to do this in summer time, as we will have to camp out two nights, without a change of clothes, in blankets.

Mr. Penrose has written to the Hon. T. H. Smith explaining this.

The new route will be about 30 miles longer than the one *via* the Mann River, but it goes through fairly useful country, fit for settlement, for the first 50 miles from South Grafton.

I have, &c.,
JOHN CUMMING.

Forwarded for the Minister's information. It is evident that the exploration should be started about the end of November, when the weather is more favourable for camping out without tents or blankets.—H.D., 5/10/92. Under Sec. Inform Mr. See.—W.J.L., 6/10/92.

Sir, 15 October, 1892.

With reference to your representations in regard to the exploration of the proposed route of the South Grafton and Glen Innes Railway *via* Washpool Creek, I am directed by the Secretary for Public Works to inform you that, as the nature of the country necessitates the exploration being made on foot, the work will have to be undertaken about the end of November, when the weather is favourable for camping out without tents or blankets.

I have, &c.,
J. BARLING,
Under Secretary.

The Hon. John See, M.P.

No. 164.

Mr. J. Cumming to The Engineer-in-Chief for Railways.

Proposed route, *via* Washpool Creek, from Grafton to Glen Innes.

Sir, Copmanhurst, 13 December, 1892.

I have the honor to inform you that I have explored the above line, and have to report as follow:—

The line follows the trial survey from Grafton to Tenterfield as far as Yugilbar, crosses the north arm of the Clarence at the latter place, thence follows the range forming the water-shed between the Washpool and Coombadjha Creeks, and joins the Coombadjha Creek route at the head of that creek.

The approximate length from Grafton to Glen Innes is about 131 miles.

The portion from Grafton to Yugilbar will give a moderate section, and the country is fairly good for farming and grazing.

The middle portion, from Yugilbar to the head of the Coombadjha Creek, has plenty of length to make the ascent from 400 feet to 3,000 feet with 1 in 50 grade, but the country is of the most rugged and mountainous character, and will give an enormously expensive section requiring from 15 to 20 miles of tunnels and viaducts.

The remaining portion, from the head of Coombadjha Creek to Glen Innes, is through easy country, and will give a light section.

It is not advisable to have this route surveyed, as the length is 30 miles more than that of the Mann River line, and the cost of construction is from 20 to 50 per cent. more than that of either the Mann River or the Don Dorrigo lines.

I have, &c.,
JOHN CUMMING.

Assistant Engineer for Trial Surveys.—F.H., 19/12/92.

Sir, Copmanhurst, Clarence River, 14 November, 1892.

Per same mail in one parcel I send you plans and section of a deviation of the North Coast line at Grafton and of Nos. 1, 2, and 3 deviations of the Glen Innes and South Grafton permanently-staked line.

No. 3 sharpens the curves from 20 to 12 chains and increases the length by about 15 chains, but greatly reduces the earthwork and culverts, and flattens the grade from 1 in 40 to 1 in 50.

I will go over the proposed route *via* Washpool Creek about the end of the month, as arranged with Mr. Penrose, Yugilbar, unless I get further instructions.

I have, &c.,
JOHN CUMMING.

Engineer-in-Chief, Railway Department, Sydney.

Assistant Engineer for Trial Surveys.—H.D., 17/11/92. These plans have been received; curious to say, as far as they go, these deviations giving 1 in 50 grades show considerably easier works in every way than the 1 in 40 lengths which they replace, while the cost of the additional length is comparatively trifling.—C. O. BURGE, 24/11/92. Who made the original survey?—H.D., 28/11/92. Assistant Engineer for Trial Surveys. Mr. Cumming himself.—C. O. BURGE, 29/11/92. Engineer-in-Chief.—I shall be glad to know why Mr. Cumming did not pick out the best line in the first instance.—H.D., 30/11/92. Mr. Cumming.

Telegram from Mr. J. Cumming to The Engineer-in-Chief for Railways.

WILL finish here on the 7th; send instructions.

Mr. Cumming has been wired, if his present instructions have been carried out and no further improvements are possible, he is to break up his camp and return to Sydney.—C. O. BURGE (*per* C. McD.S.), 10/1/93. Mr. Cumming has returned to Sydney.—F.H., 13/1/93.

No. 166.

Mr. J. Cumming to The Engineer-in-Chief for Railways.

Glen Innes and South Grafton Railway.

Sir, 28 January, 1893.

I have the honor to report that I have completed the survey of the proposed deviations of the above line, altering the 1 in 40 grade to 1 in 50.

No. 1, from 99 miles 75 chains 0 links to 101 miles 47 chains, is 2·95 chains shorter than the old line. It does not affect the grades or earthwork, and is intended to alter the station ground.

No. 2, from 95 miles 56 chains to 98 miles 32 chains, increases the length by 11·78 chains, and requires 12-chain curves against 16-chain, but does not increase the cost of construction.

No. 3, from 91 miles 10 chains 47 links to 92 miles 56 chains, is 14·79 chains longer, and requires 12-chain curves against 20-chain, but considerably reduces the earthworks and culverts.

No. 4, from 76 miles 34 chains to 78 miles 59 chains 46 links, is 19·46 chains longer, and requires 12-chain curves against 15-chain, but considerably reduces the earthworks.

No. 5, from 72 miles 78 chains to 75 miles 37 chains, is 7·02 chains longer; slightly increases the cost of construction, but does not require sharper curves than those on the old line.

From the nature of the country on the lower half of this line, the best routes that can be got with 1 in 40 and 1 in 50 grades will be similar in every respect, except a slight difference in length in favour of the steeper grade.

I have, &c.,
JOHN CUMMING.

No. 167.

Memorandum to The Engineer-in-Chief for Railways.

Glen Innes to South Grafton.

Department of Public Works, Railway Construction Branch,
Engineer-in-Chief's Office, Sydney, 15 March, 1893.

Three estimates with abstracts, diagram map (*Appendix* B). Papers, 92-4,559, &c.

HEREWITH I beg to forward report estimates divided into three parts and diagram map of the above amended survey.

This was undertaken to reduce the ruling grade of the original permanent section, on the main descent, from 1 in 33 to 1 in 50, and of the lower portion from 1 in 40 to 1 in 50, as well as to reduce the cost of the works throughout.

As regards the gradient question, this has been effected.

With regard to the work, no estimate was ever made of the original line, but an inspection of the two sections is sufficient to show that, notwithstanding the considerable increase of length which is involved by attaining the two objects, a large reduction has been made.

The amendment of the portion comprising the main descent from the table-land, corresponding to Part I of the estimates herewith, and generally known as the Red Range route, was surveyed by Mr. Little in the early part of 1891, and the amendment of the remaining portions being then held over, an interim report and rough estimate were sent in under date 8th October, 1891, which the present ones, based on the amendment of the whole line, and gone into with much greater detail, supersede.

Part No. 1 of the estimate, which rests on Mr. Little's work, which is a flying survey only, is liable to be considerably altered on a proper trial survey being made. Parts II and III, being based on the original permanent survey and on deviations therefrom surveyed in the usual trial survey form, are more trustworthy. The estimate, therefore, as a whole, is not so accurate as those of the rival routes, *via* Tenterfield and Guyra. The section of Part I is mostly compiled from cross-levels on a traverse only, and in a few cases where these have not been long enough to reach the development of the best line, the section is rather problematical, and that too in plans where heavy works are involved.

The line begins by a junction with the Great Northern railway at 321 miles from Newcastle, and about 2 miles south of Glen Innes station. From here to 321 miles 60 chains the section is assumed, but by varying the curve used, a fair section will probably be obtained. The junction as traversed on the ground in the flying survey is at 320 miles 43 chains, and being unsuitably placed at the foot, a gradient is not entertained in this estimate.

The line, whose general direction on the table-land is easterly, crosses Beardy waters at 323 miles 17 chains, and turning sharply to the south at 324 miles for a mile, proceeds then north-westerly to the crossing of the Mann River at 328 miles 66 chains, about ¾ mile below the road bridge. The direction then is mainly easterly to the 335th mile, where the drop from the table-land begins. This is the highest point on the line, and it is about 100 feet higher than the summit of the original line. The valley of Oakey Creek is now followed with a north-easterly bearing, down, on the ruling grade of 1 in 50, to Larkin's Peak, a precipitous spur jutting out in a north-easterly direction from the Main Range. At Larkin's Peak the new line is only about 1½ miles distant from the original line at the other side of the Mann River valley, but it is 440 feet above it in elevation.

Advantage is taken of this promontory of Larkin's Peak, as suggested by me to Mr. Little, to fall suddenly down about 200 feet in about 35 chains, as the crow flies, by means of a spiral. The spiral is flattened out to an oval shape, so as to expose a considerable portion of it as an embankment to absorb stuff,

stuff, to shorten tunnels, and to help their ventilation by lengthening the development, thus easing the grade through them to 1 in 100 through No. 1 tunnel at 339 miles 45 chains, which is 739 yards long, and to 1 in 78 through No. 2 at 340 miles 30 chains, which is 562 yards long.

The effect of this spiral alignment is that at 338 miles 43 chains the line is only 2½ chains distant in a direct line from a point 1¼ mile further on by the railway mileage, there being a difference in levels of about 103 feet, while at 339 miles 20 chains, where the line again approaches itself within 3 chains, the lower point is over 1½ mile further by rail, and 100 feet below.

The line, after leaving the spiral, scarps the eastern side of the spur, which is thus utilised, and heads the eastern fork of Oakey Creek, encountering a short tunnel (No. 3), 119 yards long, at 341 miles 17 chains. A sharp horse-shoe bend takes the line round the spur between this last and Rusden's Gully, which is crossed at 343 miles 14 chains.

The line has a generally easterly but very tortuous course from this point to Yarrow Creek, at 346 miles 27 chains, the grade being somewhat easier in this interval. This creek is now followed down closely on its eastern bank to its junction with the Mann River, tunnel No. 4, of 184 yards, being met with at 351 miles 31 chains. The line now follows the Mann River, and just beyond the confluence of the Yarrow Creek with it the outer line, in order to avoid the deep and wide chasm of Surveyors' Creek, 250 feet below, has to diverge sharply to the right to get across it higher up. In doing so spurs have to be pierced by tunnels Nos. 5 and 6, of 129 and 507 yards respectively. The creek is passed at 352 miles 47 chains, and the Mann River is rejoined about 353 miles 20 chains, the old line at 20¾ miles from Glen Innes being close at the other side of the water.

The Mann River is more or less closely followed to 357 miles 40 chains, skirting the Organ Rock, opposite the surveyed township of Mitchell, tunnels No. 7 (409 yards), No. 8 (372 yards), and No. 9 (396 yards) being here necessary between 357 miles 75 chains and 359 miles 10 chains, crossing Stirrup-iron Creek between the two latter at 358 miles 62 chains.

The Mann River is again approached at 359 miles 60 chains, a short tunnel (No. 10) of 101 yards occurring at 360 miles 32 chains.

The Mann River is crossed at 362 miles 15 chains, at a considerable skew, which probably might be greatly reduced on further investigation, and the original survey joined at 362 miles 29·70 chains, this point corresponding with mileage of latter, 29 miles 49·40 chains from Glen Innes.

Part No. 1 of the estimate extends to this point.

The original line is now adopted to 363 miles 16·68 chains (new line through mileage being used in this report throughout, except where specially mentioned), the only alteration being in grading, the former line having been graded to suit a 15-foot base for the cuttings, the amended 18-foot base requiring a lifting of the formation to suit disposal.

The old line so taken follows closely down the northern bank of the Mann River, a tunnel (No. 11) of 66 yards occurring at 362 miles 46 chains, and, calling the Red Range line deviation No. 1, a slight deviation (No. 2) occurs from 363 miles 16·67 chains to 363 miles 28·91 chains, merely to improve the ninth curve on the old line to 10-chain radius, the latter being the limit on the new one; and, after passing through tunnel No. 12, of 63 yards, at 366 miles 9 chains, a similar alteration for curvature is made from 366 miles 10·83 chains to 366 miles 19·46 chains.

At 370 miles 74·39 chains to 372 miles 34·77 chains, a deviation (No. 4) to improve the line is made, reducing the earthwork, the additional length being 4·02 chains. This is the nearest point to the surveyed township of Newton Boyd, which is about 1 mile away on the other side of the Mann River.

The next deviation (No. 5) is from 373 miles 63·53 chains to 374 miles 25·78 chains, and reduces earthworks and height of bridges considerably. The extra length is 1·65 chain.

No. 6 deviation is similar in object, and is from 374 miles 30·15 chains to 374 miles 60·89 chains, involving extra length of 1·20 chain.

Beyond this the banks of the river become very precipitous, and a considerable number of tunnels, mostly short, through jutting spurs impossible to get round, follow here, enumerated as under:—No. 13, 286 yards; No. 14, 66 yards; No. 15, 52 yards; No. 16, 84 yards; No. 17, 130 yards; No. 18, 31 yards; No. 19, 75 yards; No. 20, 91 yards; No. 21, 42 yards; No. 22, 351 yards; No. 23, 35 yards.

No. 7 deviation now follows, and is very important, cutting out the long 1,305 yards tunnel of the old line, by going round the spur which that line went straight through. The works on the deviation, however, are heavy, and include a short tunnel (No. 24) of 80 yards, at 388 miles 53 chains. Omitting this, the deviation would probably cost, at the outside, about the average of the whole line per mile (say) £18,000. It begins at 388 miles 5·59 chains, and ends at 389 miles 49·26 chains, giving an extra length of 60·33 chains. The saving effected by this deviation would, therefore, be as under:—

Original line—Tunnel (say)	£65,250	
Permanent way	1,850	
		£67,100
New line—Tunnel (say)	4,000	
Works, £18,000 × 1½ mile	27,000	
		31,000
Saving		£36,100

The next deviation (No. 8) has the same object as No. 7, effecting it in much the same way. It begins close to the end of the previous one at 389 miles 64·1 chains and ends at 390 miles 58·87 chains, giving an extra length of 29·74 chains.

The saving may be estimated on the same plan as under:—

Original line—Tunnel (say)	£40,900	
Permanent way	1,317	
		£42,217
New line—Tunnel	15,300	
Works, 75 chains at £18,000 per mile	16,875	
		32,175
Saving		£10,042

Tunnel

Tunnel No. 25, of 306 yards, as above, is included in this deviation. Tunnel No. 26, of 88 yards, follows immediately at 390 miles 69 chains, and deviation No. 9 begins at 391 miles 35 chains, ending at 392 miles 5·25 chains, with an extra length over original alignment of 0·21 chains, effecting a reduction in earthwork.

The works here get gradually easier, the line still skirting the Mann River, which is crossed at 402 miles 45 chains, and a E.N.E. course taken through the parishes of Braylesford and Duckan Duckan towards the Clarence River, the valley of which is now taken down to Grafton. Tunnel No. 27, of 330 yards, is at 406 miles 5 chains, and is the last.

Deviation No. 10 substitutes 1 in 50 for 1 in 40 grades of the old line, and begins at 406 miles 75·45 chains, ending at 409 miles 41·45 chains. There is practically no difference in the amount of work in this case. The extra length is 7·02 chains.

No. 11 easing the grade to the same extent, curious to say, lightens the earthwork and culverts considerably, though the length is increased by 19·44 chains. This begins at 410 miles 38·49 chains, and ends 412 miles 63·93 chains.

At 416 miles the line adjoins the south bank of the Clarence River, passing Copmanhurst, on the northern bank, about 419 miles, Nobby's and Cattle Creek at 419 miles 36 chains and 420 miles 55 chains respectively, and crossing the Orara River at 422 miles 11 chains.

An expensive feature of the line is the great height of the formation level over the beds of these watercourses, rendered necessary to be above the flood-level caused by the Clarence River backwater. Unsuccessful attempts were made in each of these cases to deviate so as to cross the creeks higher up, where the bed would be higher and the flood no worse.

After crossing the Orara the line takes a south-easterly direction, and between it and South Grafton the following deviations have been surveyed:—

No. 12, from 425 miles 31·40 chains to 426 miles 79·93 chains, largely reducing earthwork, and at the same time the grade from 1 in 40 to 1 in 50, at an increased length of 14·79 chains.

No. 13 also making reductions of a considerable character, while easing grade to same extent. This is from 430 miles 14·72 chains to 433 miles 2·50 chains, lengthening line by 11·78 chains.

No. 14, in connection with improved approach to South Grafton station and wharf, and to junction with line from Guyra and the south. There is no practical difference in amount of works between it and the old line except as effected by regrading, which is independent of location. It begins at 434 miles 45·55 chains, and ends 436 miles 14·55 chains, being 2·95 chains shorter than the previous line.

The approach to South Grafton is made by the line bending north-easterly, intersecting arm of flood-area (1876) between 434 miles 59 chains and 435 miles 24 chains, junctioning with the North Coast and Guyra line at 435 miles 31·21 chains, and, jointly with that line, crossing the overflow of the Clarence flood-marks at 435 miles 52 chains and 435 miles 75 chains, entering then upon the proposed terminal station-ground, the centre line being parallel to and 4 chains from Bent-street, South Grafton. The production of the line on to the river-frontage crosses Alipon Creek at 436 miles 8·90 chains, being under flood-level (1876) as regards surface of ground from 435 miles 75 chains to the end.

The original line along the south bank of the Clarence, running down stream, is now adopted to 436 miles 57·55 chains, corresponding to 102 miles 10 chains from Glen Innes on the old survey, which is the terminal point.

In nearly all the deviations the length of curvature is increased, but its severity decreased as regards the western end of the line, as compared with the old permanent survey, many 8-chain curves occurring on it, 10 chains being the limit on the new line. There are, however, many more 10-chain and other nearly as sharp curves on the new line than on the old.

A 1 in 50 ruling grade, as against 1 in 33, but at the expense of additional length of 12 miles 33·43 chains, has been obtained. The deviations to lessen works are responsible for an aggregate additional length of 1 mile 14·12 chains, making a total addition of 13 miles 47·55 chains.

The earthworks are moderate, at least as compared with the greater part of the rest of the line, from the Glen Innes junction to the summit, from which they are exceedingly heavy, to the junction with old line at the second crossing of the Mann River; the cuttings here too are very insecure, and the liability to slip may make more tunnelling necessary than has been provided for. The work is then rather lighter to about 376 miles, where heavy work again occurs for over 20 miles, the rock, however, being of a sounder character than that on the descent. The remainder of the line is of a more moderate character, but still fairly heavy.

The tunnelling has been already referred to in order. The length, in the aggregate, amounts to 3 miles 18·82 chains.

There are several large bridges on all the sections, over rivers and creeks, as well as to span ravines. Beardy Waters, Mann River (three crossings), Yarrow Creek, Hell-hole Creek, Oakey Creek, Cooradooral Creek, Walabla Creek, Cattle Creek, Orara River, and five ravines, varying from one 42-foot steel span, with three 24-foot timber openings over a ravine, to three 200-foot steel spans over the Orara River, and eight 123-foot and two 42-foot steel spans over third crossing of the Mann.

Besides these there are ninety-three 14-foot timber openings provided to deal with the Clarence flood at South Grafton, and owing to a large portion of the line immediately adjoining what might be called the main drainage of the district passed through, viz., the Mann River, there is an unusual number of moderate sized openings required for its larger tributaries at their maximum discharge points, and its smaller drainage is greatly cut up.

With regard to materials, stone for ballast is plentiful throughout, and for building through the central portion. Timber is to be had, but not close to the line as a rule, and carriage is expensive, generally on account of the precipitous character of the country. Material for brickmaking is available at the Glen Innes end.

Water is plentiful, and may probably be supplied in many cases by gravitation direct into the tanks.

The capabilities of the country passed through may be called agricultural and pastoral on the table-land, practically non-existent on the mountainous portion from the summit to Newton Boyd; cattle-producing from there to South Grafton, but very limited in width for nearly half this length.

This survey, with its estimates, following the arrangement of its original, runs right into South Grafton and to the banks of the Clarence, the last portion, 1 mile 26·34 chains, containing very expensive station works, engine accommodation, and flood-viaducts being common to it and to the North Coast railway;

railway; so that if the latter be considered as ultimately necessary, this portion should belong to the latter system, as was done in the parallel case of the Tenterfield to Casino line, the survey and estimate of which was finished at Montgogerie Junction, on the Grafton and Lismore line.

In case this view should be taken, I supply as under the amount to be deducted from Part III of the estimates herewith, viz., £39,782 11s. 3d., leaving that total £374,234 2s. 9d., or £11,430 9s. per mile.

As submitted, however, the total of the three estimates is £2,058,480 16s. 4d., or £17,788 9s. 3d. per mile.

C. O. BURGE.

No. 170.

J. See, Esq., M.P., to The Secretary for Public Works.

My dear Sir, Sydney, 1 February, 1895.

I send herewith a letter from Mr. G. H. Varley, of Grafton, and two extracts, one from the Grafton, or, rather, *Clarence Examiner*, the other from the *Glen Innes Examiner*. These all urge that a fresh survey should be made of the proposed Grafton-Glen Innes railway—that the route indicated would shorten the route by some 14 miles, and effect a great saving on the last estimate made of the cost of this line. Mr. Varley suggests that Mr. O. Lloyd should be put in charge of the survey, as he is well acquainted with the country, and the people have confidence in him.

I strongly urge, therefore, that the route suggested be surveyed, viz, up Chambigne Creek—through the range to Dough Boy Hollow; thence up Cunglebung Creek, and through the range to Newton Boyd—joining the lately-improved section from that place to Glen Innes. This will not be a costly work; and if the survey, as suggested, is carried out, it will give great satisfaction to a number of people resident upon the Clarence River, and in the Glen Innes District.

Yours, &c.,
JOHN SEE.

Acknowledge and let me have report.—J H.Y., 20/2/95. Mr. Deane.—D.C.McL. (*pro* U.S.), 22/2/95.

The central portion of this direct line, which was advocated by Mr. Hooke, does not seem to have been reported upon, although I am nearly certain that some aneroid levels were taken, which showed serious difficulties in the way of a good line being obtained. However, I think the best way will be to have the matter tested by actual survey. It will set the matter at rest, and I therefore recommend this step.—H.D., 5/3/95. Under Secretary.

[*Enclosure.*]

Dear Mr. See, Grafton, Clarence River, 22 December, 1894.

I enclose two extracts, from the *Grafton Examiner* and *Glen Innes Examiner*, touching on improvements of the survey for railway from South Grafton to Glen Innes. It is urged that this amended survey, particulars of which are sent herewith, should be made in order to set the question at rest for the future, as to which is the best line in the interest of the country. The Minister, as you of course know, has promised to consider all projected lines. The consideration cannot be complete until this amended survey has been made, and a mistake once made in a matter of railway construction will be very difficult to remedy. As it is, the line from South Grafton to Glen Innes will prove less costly to construct than either of the other lines suggested, and less costly to use by the people than either of those, consequently it has even now the most favourable features for establishing and maintaining a traffic in the interest of the country. But if 14 miles of haulage can be saved, even at the same cost as the line already surveyed, a great advantage will be gained. But if, as many persons think, the total cost can also be reduced, a still further advantage will be gained, and the time hastened when the line is likely to be undertaken. What is urged is that the Minister should have this survey undertaken at once, and if a suggestion could be made, it would be that Mr. O. Lloyd, who has done such good work in respect to other lines in this part of the country, should be entrusted with the duty of exploring the country indicated, and making the improved survey. Mr. Lloyd is, I believe, still on the Glen Innes-Inverell survey; his name is mentioned in connection with the Grafton line, because it is believed that the public would have confidence in him, from his known ability. In the event of this surveyor being entrusted with the work, and a comparatively free hand, much information, perhaps not at present available to officials, could be placed at his disposal. The great success of the Tenterfield-Casino survey, we hope, will influence the Minister in granting this application.

1. The suggested improvement of the survey is: Leaving the present survey about 4 miles out of South Grafton; proceeding thence to the Orara, and making by best route for Chambigne Creek Valley; proceeding up that valley to range dividing that creek from the Nymboida River; through the range to Doughboy, crossing the Nymboida River; and thence following up Cunglebung Creek Valley to the range dividing the waters of that creek from those of the Henry River; through that range to Newton Boyd; and thence on to connect with Mr. Little's latest survey.

2. Improvement of Little's survey near the Red Range.—The improvement suggested being to keep nearer to the Mann River, in place of ascending the Red Range and again descending.

The country in both of these localities needs to be thoroughly examined. The existing survey is, as you know, 114 miles in length; the length of the line along the course indicated would be something like 100 miles, it being almost direct.

The Honorable John See, Member for Grafton. Yours, &c.,
G. H. VARLEY.

[*Sub-Enclosure.*]

Extract from the *Grafton Examiner*.

RAILWAYS.

THE subject of light or pioneer lines of railway is coming very much to the front. The Railway Commissioners have recently inspected the route for one of those proposed lines between Jerilderie and Berrigan. They have now been requested by the Minister for Works to report on the prospects of similar lines from Parkes or Forbes to Condobolin, and from Bourke to Brangar, on the Queensland border. This line would be about 84 miles in length, intended to tap the Queensland border. Another line spoken of is the Goulburn-Crookwell line, some 34 miles in length. This line has been before the Public Works Committee, and was recommended to be carried out, provided the cost did not exceed £4,500 per mile, with gradients of not less than 1 in 50. Another survey is being made with a view to bringing down the estimate to within the amount recommended by the Committee. It is feared by the Minister that this cannot be done, and, further, that in any case it cannot be constructed on the light or pioneer system. The Narrabri-Moree line is intended to be a light line, so far as the cost is concerned. The Glen Innes-Inverell route is said to be too difficult to permit of the construction of a cheap line. This latter line is stated by the Minister to be under the consideration of the Government, and that it was the intention of the Government to consider every proposed line in the country before it left office. This is a significant suggestion, and should arouse the people of the table-land to action in view of a direct line of communication with the port of Grafton. The latest surveys have shown that the cost of the direct line can be materially reduced in comparison with the original estimate. With the latest survey it has been shown to be the cheapest line to construct of all those projected from the table-land

table-land to the coast. Not only that, it is the shortest and most direct, and consequently would be the cheapest to use by those conveying produce or merchandise. Still, there are those who hold to the opinion that the cost of the line may still further be largely reduced upon close inspection of the country, taking in a route which would be more direct. The route suggested up Chambigne Creek, through the range to Doughboy Hollow, thence up Cunglebung Creek, and through the range to Newton Boyd, joining the lately-improved section from that place to Glen Innes. Would it not be well if a move were made to bring this matter under the notice of the Minister, with a view to the survey being completed before the Government proceeds to consider "every proposed line" on its merits? The Glen Innes-Grafton line, as it is, stands out prominently as the national line, but none the more the less, if improvement is capable, reducing the first cost and ultimate charges, that improvement should be sought in the public interest.

[Extract from the *Glen Innes Examiner*, 11th December, 1894.]

THE GRAFTON-WEST RAILWAY ROUTE.

THE *Grafton Examiner* suggests that a more direct survey of the railway line from Grafton to Glen Innes should be made, and it is suggested that the Minister should be asked to send up a party of surveyors to undertake the work. A gentleman who is thoroughly acquainted with the intervening country writes to say:—"There is much to indicate the importance of that survey being made. It is stated by what I believe to be competent authority that the route is some 10 to 15 miles shorter than the surveyed route. Such a saving in haulage for all time is an important item in wear and tear, management expenses, and particularly in respect to charges to those using a line. An authority has given it as his opinion that the shortened line (even though tunnels would be needed to pierce the ranges from Chambigne to Doughboy and from Cunglebung Water to Newton Boyd) will be less expensive to construct than the surveyed line, the bridges required on the shortened line being neither so numerous nor so large as those that would be required on the other. Besides, the facility for bridge-building as regards sites is much superior, in comparison, on the shorter line. The subject is one that should certainly be investigated, and I do not think it will be asking too much if the Minister were solicited to have a survey and estimate carefully made at once, in anticipation of that consideration promised with regard to all proposed lines. The Government are anxious to provide work of a reproductive character for the unemployed. Here is an important step in the inception of such a work. More than that, the construction of such a line—by bringing adjacent districts into closer touch with each other, will do more to remove the pall of depression that hangs over the country than anything else. Many other reasons might be urged in favour of the survey and the work, but I need not repeat what has been so frequently stated." There is a good deal of force in the foregoing remarks, and we think no time should be lost in bringing under the notice of Mr. Young the expediency of having the improved survey made at as early a date as possible.

No. 171.

Memo. from Mr. C. McD. Stuart to The Engineer-in-Chief for Railways.

Glen Innes to South Grafton.

Department of Public Works, Railway Construction Branch,
Engineer-in-Chief's Office, Sydney, 28 February, 1895.

Sir,

I beg to forward herewith a tracing showing the originally permanently-staked line from Glen Innes to South Grafton in red, and the proposed alterations *via* Red Range and Kingsgate, and between the crossing of the Mann River and South Grafton, by dotted red lines; also the explorations of alternative routes by double-dotted lines.

The rough estimate of the original line, 102 miles in length, was £1,999,200, or an average of £19,600 per mile, the limiting grade between the table-land and Newton Boyd being 1 in 33, and between the crossing of the Mann River and South Grafton 1 in 40.

By the proposed alterations *via* Red Range, &c., the length of the line is 115 miles 57·59 chains; total cost, £2,058,480 17s. 4d.; and average per mile, £17,788 9s. 3d. Of this, part No. 1, the deviation *via* Red Range, is 41 miles 43·80 chains in length, and is the most costly, being £945,279 5s. 8d., or £22,751 15s. 5d. per mile. The limiting grade *via* this route is 1 in 50.

As the proposed new route has to pass through the ranges between Chambigne Creek and the Nymboida River, and between Cunglebung Creek and the Henry River, it would probably be as costly as the last mentioned, and the grades on the intermediate portion not as good as those down the Mann River.

CHAS. McD. STUART.

The routes explored and shown by double-dotted lines on the accompanying tracing were abandoned owing to the difficult nature of the country passed through, as also Mr. Warren's trial line *via* Dandahra.

Mr. Hooke, I believe, at various times advocated a line through Newton Boyd. Can you not show this line on the tracing? It partly coincided with an explored line of Mr. Francis and part with Mr. Little's line. The intermediate portion does not seem to have been reported upon, although I am under the impression that Mr. Little or Mr. Cumming took some aneroid levels.—H.D., 5/3/95. Assistant Engineer for Trial Surveys.

Herewith Mr. Francis's report, 78–1,164. The line described by him has been added on to the map now returned. There is no record of the aneroid heights referred to.—C. O. BURGE, 11/3/95. Seen.—H.D., 13/3/95.

No. 172.

Memo. *re* new Survey asked for by Mr. See, M.P.

Proposed South Grafton to Glen Innes Railway.—Suggestion that a route up Chambigne Creek, through the range to Doughboy Hollow, &c., should be surveyed.

ON the 1st February last Mr. J. See, M.P., forwarded a letter from G. H. Varley, of Grafton, urging, in connection with the proposed South Grafton to Glen Innes railway, that a route should be surveyed up Chambigne Creek, through the range to Doughboy Hollow, thence up Cunglebung Creek, and through the range to Newton Boyd. This route, it is considered, would be shorter by 14 miles than the one surveyed.

Mr. See also sends extracts from the *Clarence River* and *Glen Innes Examiners*, in favour of the line up Chambigne Creek, &c., and he strongly urges that a survey be made. Mr.

Mr. Deane minutes as follows:—

"The central portion of this direct line, which was advocated by Mr. Hooke, does not seem to have been reported upon, although I am nearly certain that some aneroid levels were taken, which showed serious difficulties in the way of a good line being obtained. However, I think the best way will be to have the matter tested by actual survey. It will set the matter at rest, and I therefore recommend this step."

About how much will this survey cost.—J.B., 28/11/95.

I told Mr. See, M.P., that I would send a surveyor to make a careful preliminary examination as soon as possible, if the people of Grafton would provide a guide having local knowledge to accompany him.—J.H.Y., 28/11/95.

As I presume it is not likely this proposal will be considered in the near future, is it worth while spending any more money at present on the survey? It has already cost £17,961.—J.B., 6/3/95. No. Must stand over.—J.H.Y., 8/3/95. Inform.—D.C.McL. (*pro* U.S.), 9/3/95.

Noted; but it is scarcely correct to say that these surveys—that is, the trial surveys, presumably—have cost £17,961. According to Mr. Carpenter's account, £8,000 would be nearer the mark, and it is not the fault of the line that a lot of work had to be done twice, the plans having been burnt in the Garden Palace fire.—H.D., 28/3/95.

Memorandum to Engineer-in-Chief.

Trial Surveys from South Grafton to Glen Innes.

Department of Public Works, Railway Construction Branch,
Engineer-in-Chief's Office, Sydney, 7 March, 1895.

With reference to the cost of above trial surveys, I find that the following is the estimated amount:—

Original survey, say plans destroyed in Garden Palace fire	£4,600
Second survey, say	3,000
Subsequent explorations and deviations	1,000
Total to 1884	£8,600
Since above the per. survey has cost (charged to vote of £2,000,000)	9,361
Total	£17,961

Sir, 12 March, 1895.

With reference to your letter of the 1st ultimo, enclosing a communication from Mr. G. H. Varley, of Grafton, urging that in connection with the proposed South Grafton to Glen Innes railway a survey should be made up Chambigne Creek, through the Range, to Doughboy Hollow, thence up Cunglebung Creek to Newton Boyd, I am directed by the Secretary for Public Works to inform you that the matter must stand over for the present.

I have, &c.,
J. BARLING,
(*per* D.C.McL.),
Under Secretary.

John See, Esq., M.P.

No. 173.

J. See, Esq., M.P., to The Secretary for Public Works.

My Dear Sir, Sydney, 28 March, 1895.

I wrote to you a few days ago upon the subject of a further survey of a line of railway from Grafton to Glen Innes, and I regret that you have replied to the effect that you cannot consent to this being done. With that letter I sent you a long letter from Mr. Varley, of Grafton, and extracts from the *Glen Innes and Clarence Examiner*, in which strong and forcible arguments are used why it should be done. I do trust that you will reconsider your decision, and approve of the survey being done, and thereby satisfy for the time being a very large (some thousands) number of persons interested in this great national work.

Yours, &c.,
JOHN SEE.

Submitted.—J.B., 2/4/95. Mr. See may be informed that until the much more urgent survey work on hand has been completed this cannot be done.—J.H.Y., 5/4/95. Inform.—Jno. P. (for U.S.), 5/4/95.

Sir, Department of Public Works, Sydney, 11 April, 1895.

With reference to your letter of the 28th ultimo, further in regard to the question of making another survey for a line of railway from Grafton to Glen Innes, I am directed by Mr. Secretary Young to inform you that until the more urgent survey work on hand has been completed the survey asked for cannot be made.

I have, &c.,
J. BARLING,
Under Secretary.

John See, Esq., M.P.

No. 175.

O. Lloyd, Esq., to The Engineer-in-Chief for Railways.

South Grafton to Glen Innes Railway—Report of exploration made by O. Lloyd from South Grafton to Newton Boyd by way of Chambigne and O.B.X. Creeks and the Boyd or Little River.

The Engineer-in-Chief, Railway Construction Branch,

Sir, Department of Public Works, Sydney, 8 February, 1896.

I have the honor to inform you that, in accordance with your instructions to that effect, I left Sydney on the 7th ultimo, arriving at Grafton on the afternoon of the 9th January.

As several of the members of the Chamber of Commerce were absent from Grafton, I was unable to obtain the necessary information I required until the 10th ultimo, when there was a meeting of the Railway Committee. That

That body did not appear to have any definite scheme to propose as to my operations, the feeling apparently being that I was to have a free hand in regard to route to be tried.

The only suggestion offered was made by Mr. T. Bawden, and such was based, so far as I could gather, on a proposal by one Rhodes, who had acted as guide to Mr. Cumming on one occasion, and had led him into all sorts of impossible country.

Mr. Bawden's idea was that a line might be tried up Chambigne and down Doboy Creeks, crossing the Buccarumbi Range near where the two creeks head together; then down into the Nymboi River across the same, and grade up a creek known as Wellington Creek; tunnel through a high range dividing the Nymboi and Mann River waters; cross the Mann and up Cooraldooral Creek; thence route was to be as might be best found to the table-land.

Nearly the whole of the country proposed to be caused to be explored by Mr. Bawden had been previously reported upon, and most strongly condemned by Messrs. Warren, Cumming, and Francis, and I had additional information furnished to me as to aneroid heights, by Mr. W. J. Mulligan, manager of the Coramba and Chambigne mines.

Mr. Mulligan assured me that there is a rise of 3,000 feet from the Mann River to the head of Cooraldooral in a distance of 10 miles at furthest.

I think from representations made by me to Mr. Bawden that he is satisfied as to the inutility of further exploration in the direction named. Having abandoned the Chambigne-Doboy connection, I determined to try a line up the Chambigne and O.B.X. Creeks, as shown on attached tracing in solid red ink.

In the event of a survey being made the connection with the existing line would, I imagine, be somewhere near the 97-mile peg on the staked route. Mr. Francis, in a report as to the value of the Chambigne Creek Valley for railway purposes, writes very favourably of such.

Indeed, the country generally from South Grafton to the Orara River is very easy, both as regards grade and works.

From the assumed connection at 97 miles the first creek met with is Deep Creek.

The provision allowed by the Roads Department for this waterway is three openings of dimensions as under,—32 ft., 34 ft., 30 ft. respectively, the extreme height of the bridge from the lowest point in the creek to the Stringers being 13 feet, and the length of bridge over all 104 feet.

The next work of any magnitude would be a bridge over the Orara River, which I should propose crossing somewhere above the junction of Chambigne Creek, as roughly indicated in solid red line on accompanying tracing.

Orara or Bawden Bridge.—The total length of the road bridge over the Orara (situated about ½ mile below my assumed crossing) is 396 feet, the greatest height being 75 feet, and the number and dimensions of openings being as under, 38, 121, 121, 38, 28, 28 feet respectively.

I understand that the provision made for water clearance is only just about sufficient, so that although a railway survey would miss to some extent the volume of water contributed by the Chambigne a considerable margin would have to be allowed over the sectional area of the road bridge to make us secure.

Following up the valley of the Chambigne, I found the banks favourable, the creek sufficiently straight, and the rise nominal. From the level of the deck of the road bridge over the Orara to the junction of the O.B.X. Creek with the Chambigne, I found a rise of about 80 feet in a distance of about 5 miles. The area of settlement, timber supply, and population will be dealt with further on.

My preliminary examination had in view the crossing of the O.B.X. Creek just above its junction with the Chambigne, and working the north side of the O.B.X.

The waterway allowed for by the Roads Department in their bridge (since washed away) over the O.B.X. Creek consisted of a timber bridge of three openings; dimensions as under,—21 ft., 35 ft., 20 ft.; extreme height 16 feet, such allowance being inadequate.

The O.B.X. Creek is somewhat tortuous, and at one place, at about 13 miles (E. Collins' allot. 34), the bank descends rather abruptly, but generally speaking the works would be of an easy nature, and the bed of the creek only rises 110 feet in a distance of 4½ miles.

Buccarumbi Range.—From a point at about 14 miles on the red line it will be found necessary to commence to make grade in order to get height to cross the Buccarumbi Range. That range is the most difficult feature I met with between Grafton and Newton Boyd; and before any through survey be undertaken, I would respectfully suggest that a section showing the range crossing from (say) 14 miles to 20 miles be tried. Through the courtesy of the officers of the Roads Department at Grafton, I was able to obtain reliable data as to levels from opposite my assumed 14 miles (on the road mileage about 19 miles 40 chains) to the summit of the range, a rise of 600 feet. I contemplated being 100 feet higher than the road at my 15-mile peg, which will leave me 500 feet to negotiate in a length (which could be obtained) of 5 miles.

The country is very much broken from 15 miles to 19 miles; cross spurs will have to be cut through, but owing to the density of the saplings and undergrowth from 17 miles 40 chains to 19 miles it is impossible to form any correct estimate, or even an approximate one, as to the nature of the works. I think, however, that a tunnel may be avoided, although without some sort of survey it is impossible to say positively.

The formation from the east side of the range to Grafton is carbonaceous (conglomerates are met with for some miles along the O.B.X.), so that the cuttings will be comparatively easy to work.

There is a narrow gap in the range near where I have shown the line as crossing, and the ground falls abruptly to the east, so that a tunnel would be short.

On the west side of the Buccarumbi Range no difficulty will be met with. I found a fall of 300 feet from the summit of the range to the level of the deck of the road bridge over the Nymboi River in a length of about 5 miles.

In the event of a survey being undertaken, I think the north side of Buccarumbi Creek will be adopted from about the 20-mile mark on the red line. I do not anticipate that it will be found necessary to cross the creek more than once. Where the road crosses the creek near the 24-mile on red line the provision for waterway is as under—28 feet, 28 feet, 38 feet openings respectively, the extreme height of bridge being 15 feet. Where I should propose crossing, the creek is comparatively narrow.

Two road crossings will be necessary, the one at 20 miles, the second at 24 miles 40 chains.

Near the 23-mile point (red line) a bluff occurs which will necessitate a rather heavy cutting, but the rock is soft, alternating shales and sandstone (Devonian series). Several small culverts will be required from 20 to 23 miles.

Nymboi River.—I assumed that the Nymboi will be crossed somewhere, as shown on tracing, above the junction of the Boyd or Little River.

The road bridge over the Nymboi is of dimensions as under:

Total length, 698 feet; height (greatest), 50 feet; openings, 29, 52, 146, 146, 146, 57, 59, 57 feet. This is estimated to be an ample allowance; but as the Little River contributes at least 30 per cent. of the water volume dealt with by the road bridge, a smaller structure should suffice for railway purposes.

After crossing the Nymboi, I should propose following the south bank of the Little River, keeping just above flood reach.

There is not much to choose between the two banks; the south side has some advantages which with the fact that the road follows the north side lead me to adopt the former.

I had in view following the creek on the south-side to about 48 miles 40 chains.

The late Mr. Francis writes in most scathing terms of the Little River. He says in his report that the creek would require to be crossed repeatedly, but a glance at the accompanying tracing will sufficiently disprove such necessity. I find that instead of the creek being so tortuous as represented, it is remarkably straight. Fully two-thirds of the route from 25 miles to 48 miles 40 chains is favourable for railway purposes, the creeks crossed being, with three exceptions (Chandler's, Pine, and Bobby's Creeks), little more than gutters requiring (say) 3-ft. culverts on the average. The drainage area of these smaller water-courses is insignificant, but the side slopes being steep, a sudden thunder shower, with a heavy local rainfall, must be considered. There are several steep places to be dealt with in following the Little River; but from a minute personal inspection of the difficulties, I can but arrive at the conclusion that the worst of such is preferable to the average of the bad country encountered on the amended line-survey from Newton Boyd to Copmanhurst. My time was so limited that I had not an opportunity of comparing the two lengths, viz., the original or amended survey with my own exploration, but from information afforded to me by Mr. W. Kennedy, and an inspection of the cross-sections taken, I feel sure that the balance would be found to be in favour, mile for mile, of the Little River route. Attached is a telegram from Mr. D. Houison, Inspector of Works in the Roads Department, as to the cost of construction (other than metalling) of the main road running parallel to my proposed survey. Mr. Houison puts the average cost per *lineal* yard at about £2,000 per mile for a road base of 15 feet, such price including, as I understand, retaining-walls, which form a conspicuous feature in the road formation.

From my own observations of the cuttings along the road survey, I can state that they are taken out vertical, or nearly so that the angle of repose of the side embankments is less than ½ to 1, and that I failed to detect any serious sign of "slip"; on the contrary the sides of the hills are densely timbered, which alone should tend to hold the surface, nor are there any boulders or dangerous overhanging cliffs.

From the level of the deck of the Nymboi bridge to Dalmorton, a distance of 11 miles, I found a rise of 280 feet; and from Dalmorton to Broadmeadows, where I contemplated crossing the Little River, I found a rise of 220 feet in a length of about 12⅓ miles.

From about the 49 mile, as shown in red ink on accompanying tracing, it would be necessary to commence to make grade to get up to Grosse's Gap at about 54 miles. I have indicated as nearly as possible the route a survey would follow.

A sufficient length to secure a grade of 1 in 50 could be obtained from Broadmeadows to Grosse's Gap, but a short tunnel would be required to get through the hill, as it rises very abruptly in the last 7 or 8 chains.

I should imagine that a tunnel of some 10 chains should suffice.

In grading up from 49 miles a spur near the 51 miles will require to be cut through; but with the exception of such work and the short tunnel referred to above the works will not be found to be heavy should a survey be carried out.

I made the rise from 49 miles to Grosse's Gap, a distance of about 4½ miles, 425 feet.

The rock where encountered will be found to be soft and easily worked. The formation is Devonian sandstones and shales.

From Grosse's Gap to a junction with the Mann River survey I explored two lines, as shown in dotted red ink on tracing herewith, but found both to be impracticable, so that I was compelled to follow Bruser's Creek down to its junction with the Henry River; then along the north bank of the Henry, keeping just above flood-level, to a point where the Henry empties itself into the Mann. The crossing over the Mann to connect on to the survey made by Mr. Kennedy will be difficult, and will have to be, I fear, on curve; there will be a rather heavy cutting also. From 40 miles on Mr. Kennedy's amended survey there is no possibility, so far as I could see, to do other than adopt the Mann River survey up to where Mr. Little crossed the Yarrow River. I was unable to trace Mr. Little's survey throughout, but was sufficiently close to it to give me a general idea of the country. Unless the Yarrow Creek survey, which I more recently explored, gives the results which I imagine a survey would show, I consider that Mr. Little's line by the Red Range exhausts all the possibilities.

It is without doubt that more extended cross-sections would show great possibilities of improvement in the Red Range route. My recent exploration had in view the connection of Mr. Little's survey with Glencoe. It may at once be stated that it is impossible to connect at Glen Innes, but the aneroid readings I took lead me fully to the conclusion that Glencoe could be connected with a ruling grade of 1 in 50 and comparatively easy works. All the creeks were in flood, and I was unable to see some of the bends of the Yarrow as well as I should have liked, but taking the line generally it seemed fairly smooth, certainly a great deal easier than the Red Range. I have attached a rough tracing showing what country I explored up to Newton Boyd, and I shall, before leaving for Condobolin to-morrow, mark as nearly as I possibly can, the route followed by me from Mr. Little's survey to the Mann River, where I abandoned the exploration, as the country thence (where I cross the Mann) to Glencoe is so easy that a junction with the main line at or near Glencoe is a mere matter of detail.

I collected a lot of information as to the population and other matters, but inasmuch as my instructions had only in view the finding of a practicable route, avoiding as much as possible the heavy works on the Mann River, I think it rests with the Grafton people to state their case, as I do not wish to make myself into a partisan of any particular route.

I can, however, affirm this much, that the country from 4 miles on my rough tracing to about 40 miles, is densely timbered with ironbark and spotted gum. The ironbark extends to the south, so I am informed, for 10 miles.

Also with regard to a comparison of the Mann and Little Rivers, that nearly the whole of the rock encountered on the Mann is either granite or diorite, whereas on the Little River it is described as Devonian sandstone and shales.

At the same time, as I said before, I should respectfully request that not one shilling be spent on any through survey until the Buccarumbi Range be tried. It is the key to the whole survey up to Newton Boyd. If such proved favourable then, that a rough traverse be made from where Mr. Little crossed the Yarrow Creek up the Yarrow station, or some 3 miles higher; thence, as will be indicated on the parish maps, to the Mann River, from which point it may be accepted as favourable up to Glencoe.

I omitted to mention that I made an examination of the Henry River from Newton Boyd, but found it absolutely impracticable.

I have, &c.,
OCTAVIUS LLOYD.

Forwarded for the Minister's information.—H. DEANE, 7/4/96. The Under Secretary.

Telegram from Mr. D. Houison to The Assistant Engineer, Public Works Department.

12 February, 1896.

LITTLE River cuttings all let per lineal yard. Cost of main cuttings, 10s. to 35s., of 15 feet roadway (say) £2,000 per mile.

Telegram from Mr. G. H. Varley to The Government Surveyor.

STATEMENT—Schools and attendance, Grafton, Newton Boyd, South Grafton, 225 pupils; Chambigne, 32; O.B.X., 33; Buccarumbi, 15; Dalmorton, 57; Cowendoog, 10; Newton Boyd, about 20; Ramornie, 60; Mann River route, only school, Cangai, about 20.

No. 176.

O. Lloyd, Esq., to The Engineer-in-Chief for Railways.

Sir,

Railway Survey Branch, Sydney, 11 March, 1896.

I have the honor to supplement my report in regard to my recent exploration from Mr. Little's crossing of the Yarrow Creek towards Glencoe, and having reference to attached compilation from the parish maps.

I have marked on the compilation, as nearly as I could, the route inspected by me from Mr. Little's crossing of the Yarrow Creek near 25 miles 10 chains on his "Red Range" survey to where I terminated my inspection on the Mann River.

The aneroid heights may be accepted as fairly correct, as on regaining Glen Innes, my reading was only minus 25 feet of the true height at the railway station.

You will observe that the reduced level at the Yarrow Creek (Mr. Little's survey) is 2,830 feet (that is at my assumed junction with his line), and that in a length of 7½ miles, I found a rise of only 430 feet.

I think that grade should be made at an earlier stage than that I have shown, say from 7 miles, but such is a matter of detail to be dealt with should you sanction a survey.

I think it is quite probable that from 12 to 17 miles my line as shown in red on attached compilation is considerably out of position.

I could find the line of country I traversed easily enough myself, and could suggest the services of a man (S. M'Master), who accompanied me, should you approve of a survey, and another surveyor than myself undertook such.

From the position shown of my terminal point of aneroid observations on the upper Mann, there exists no difficulty in reaching Glencoe, as in a distance of at least 6 miles, a rise occurs of 430 feet only, my last reading in the bed of the Mann River being 3,400 feet, and the height at Glencoe being 3,793 feet, and the intervening country is quite easy.

I have, &c.,
OCTAVIUS LLOYD.

Forwarded for the Minister's information.—H. DEANE, 7/4/96. The Under Secretary.

No. 177.

The Secretary, Grafton Chamber of Commerce, to The Secretary for Public Works.

Sir,

Grafton, 25 March, 1896.

I have the honor, by direction of this Chamber, to ask you to be good enough to furnish me with a copy of Mr. Surveyor Lloyd's report on his exploration of the Grafton-Glen Innes Railway survey. I might add that it was through the Chamber that the fresh explorations were asked for.

Thanking you in anticipation.

I have, &c.,
JAS. C. WILCOX,
Secretary.

Sir,

7 April, 1896.

In compliance with the request contained in your letter of the 25th ultimo, I am directed by the Secretary for Public Works to forward you a a copy of a report of exploration made by Mr. Surveyor Lloyd in connection with the proposed South Grafton to Glen Innes Railway.

I have, &c.,
Under Secretary and Commissioner for Roads.

Jas. C. Wilcox, Esq., Secretary, Chamber of Commerce, Grafton.

No. 178.

John See, Esq., M.P., to The Minister for Public Works.

My dear Sir, Sydney, 26 March, 1896.

I shall feel greatly obliged if you will let me have a copy of Mr. Lloyd's report upon the Grafton-Glen Innes trial survey recently made by him. I understand that it is now completed and before you.

Yours, &c.,
JOHN SEE.

Mr. Deane.—Jno. P. (for U.S.), 28/3/96. Inform, 30/3/96. May be furnished.—J.H.Y., 30/3/96. Two copies of report attached.—H. Deane (*per* S.M.), 2/4/96. Under Secretary. Have tracings been made to go to Mr. See and local Chamber of Commerce?—Jno. P. (for Under Secretary for Public Works and Commissioner for Roads), 8/4/96. Mr. Deane. One tracing is finished, and the other will be ready on Saturday, the 11th instant.—H.D. (*per* F.H.), 10/4/96. The Under Secretary. Forward then to Mr. See and the Chamber of Commerce.—Jno. P. (for U.S.), 14/4/96. These tracings were forwarded on the 11th instant.—J.W.H.

Sir, 2 April, 1896.

In compliance with the request contained in your letter of the 26th ultimo, I am directed by the Secretary for Public Works to forward to you a copy of Mr. Surveyor Lloyd's report on the exploration made by him in connection with the proposed Grafton to Glen Innes Railway.

I have, &c.,

John See, Esq., M.P. Under Secretary and Commissioner for Roads.

Sir, 11 April, 1896.

I have the honor to forward herewith tracing to accompany report of exploration made by Mr. Surveyor Lloyd in connection with the proposed South Grafton to Glen Innes Railway, a copy of which was forwarded to you a few days ago.

I have, &c.,

John See, Esq., M.P. Under Secretary and Commissioner for Roads.

No. 179.

The Secretary, Grafton Chamber of Commerce, to The Secretary for Public Works.

Sir, Grafton, 10 April, 1896.

I have the honor, on behalf of this Chamber, to thank you for Mr. Octavius Lloyd's report of the exploration of the South Grafton-Glen Innes Railway, which has been forwarded to us through Mr. John See, M.P.

I am directed by this Chamber to respectfully urge that Mr. Lloyd's suggestions be carried out as early as possible.

Trusting you will give this matter your most favourable consideration.

I have, &c.,
JAS. C. WILCOX,
Secretary.

Reply that the matter will receive my consideration.—J.H.Y., 16/4/96. Write.—P.S., Under Secretary for Public Works and Commissioner for Roads, 16/4/96.

Sir, 17 April, 1896.

I am directed to acknowledge the receipt of your letter of the 10th instant, in which you ask that the suggestions made by Mr. Surveyor Lloyd in his report of the exploration in connection with the South Grafton to Glen Innes Railway may be carried out as early as possible, and to inform you that the matter will receive the Minister's consideration.

I have, &c.,

Under Secretary and Commissioner for Roads.

J. Wilcox, Esq., Secretary, Chamber of Commerce, Grafton.

No. 180.

J. See, Esq., M.P., to The Secretary for Public Works.

My dear Sir, Sydney, 11 May, 1896.

I enclose a letter from the Secretary of the Chamber of Commerce, asking that before a final survey of the proposed Grafton-Glen Innes Railway is made that a trial survey be made over the Buccarumbri and Red Ranges, as suggested by Mr. O. Lloyd in his report, and I have pleasure in urging that this request be complied with.

Yours, &c.,
JOHN SEE.

Mr. Deane.—Jno. P. (for Under Secretary for Public Works and Commissioner for Roads), 13/5/96. Noted.—H.D., Engineer-in-Chief for Railway Construction, 13/5/96. Submitted.—F.H., Under Secretary for Public Works, and Commissioner for Roads. Say that this will be done.—J.H.Y., 14/5/96. Write, 14/5/96. A letter has been written to this effect upon another paper.—J.W.H., 14/5/96. Chief Clerk. Mr. Deane.—Jno. P. (for Under Secretary for Public Works, and Commissioner for Roads), 15/5/96. Seen.—H.D., 16/5/96.

[*Enclosure.*]

[*Enclosure.*]

John See, Esq., M.P., Sydney,—

Dear Sir, Grafton, 8 May, 1896.

I have to thank you for your letter of the 24th ultimo, also copy of the letter you addressed to the Hon. the Minister for Works, and I am directed to say that Mr. Lloyd suggested in his report that the Buccarumbi and Red Ranges have trial surveys made before proceeding with the through survey.

I am pleased to note mention of this important national work has been referred to by His Excellency the Governor, and also by the Sydney press.

I am, &c.,
JAS. C. WILCOX,
Secretary.

No. 181.
Minute by The Secretary for Public Works.

Department of Public Works, 14 May, 1896.

I PROMISED Mr. See that, in reply to a recent communication of his, he should receive a letter stating that when surveyors could be spared from more urgent works, I would authorise the surveys recommended by Mr. Lloyd on Grafton to Glen Innes line. J. H. Y.

Sir, 14 May, 1896.

In reply to your recent communications on the subject, I am desired by Mr. Secretary Young to inform you that when surveyors can be spared from more urgent works, he will authorise the survey of the line recently explored by Mr. Surveyor Lloyd in connection with the proposed railway from Grafton to Glen Innes.

I have, &c.,

John See, Esq., M.P. Under Secretary and Commissioner for Roads.

No. 183.
J. See, Esq., M.P., to The Secretary for Public Works.

My dear Sir, Sydney, 22 April, 1896.

Adverting to the interview that I had with you on Monday last respecting the proposal that I made that a trial survey be made of that portion of the Grafton-Glen Innes proposed railway recently explored by Mr. O. Lloyd, I again desire to urge upon you the importance of having the survey made, as it is believed that it will very materially reduce the cost of making the line.

As to the importance of the Grafton-Glen Innes line there can be no gainsaying. It will bring into communication with the Clarence River, Glen Innes, Inverell, and the north-western portion of the Colony upon much more advantageous conditions than they enjoy at present, or can be made to enjoy under the present or any connection, save connection with Clarence. Money is cheap, labour plentiful, and I feel sure that this great national work can be carried out hundreds of thousands of pounds cheaper than it was thought that it would cost some years ago. I consider the people in the north-east and north-west portions of the Colony are entitled to have the survey asked for carried out with the object of very shortly having the railway constructed.

Yours, &c.,
JOHN SEE.

Inform him that this matter must stand over for the present.—J.H.Y., 6/5/96. John See, Esq., M.P., informed, 8/5/96. Mr. Deane to see.—JNO. P. (for Under Secretary for Public Works and Commissioner for Roads), 8/5/96. Seen.—H.D., Engineer-in-Chief for Railway Construction, 12/5/96.

8 May, 1896.

URGING that a trial survey be made of the route recently explored by Mr. O. Lloyd, for the proposed railway from Grafton to Glen Innes. The Minister has decided that this matter must stand over for the present.

John See, Esq., M.P. Under Secretary and Commissioner for Roads.

No. 185.
Minute by The Engineer-in-Chief for Railways.

Subject :—Glen Innes to South Grafton.

Department of Public Works, Railway Construction Branch, Engineer-in-Chief's Office,
Sydney, 24 June, 1896.

IN reference to the annexed, Mr. Statham called upon me on the 22nd with a series of parish maps showing his proposal. From his explanation, I judge that before a decision is come to as to the line to be finally adopted, his route should be carefully examined throughout by a railway surveyor, as it seems to promise an opportunity of getting better grades and easier work over critical portions of the country traversed. If such examination gives favourable results, it would be desirable to have a trial survey made, always supposing that, as a matter of railway policy, the Glen Innes-Grafton connection is the best.

I beg to recommend that, in the first place, an examination be made of Mr. Statham's route as soon as a surveyor is available for the purpose.

H. DEANE,
Engineer-in-Chief for Railway Construction.

Submitted for approval.—F.H., 27/6/96. Appd.—J.H.Y., 29/6/96. Mr. Deane.—JNO. P. (for Under Secretary for Public Works and Commissioner for Roads), 29/6/96. Noted.—H.D., 30/6/96. Mr. Burge. Seen.—C. O. BURGE, 1/7/96. Mr. E J. Statham offering to give information as to the best route for a railway from the Clarence to the table-land of New England. Submitted for approval to ask Mr. Statham to see Mr. Deane.—F.H., Under Secretary for Public Works and Commissioner for Roads, 8/6/96. Approved.—J.H.Y., 8/6/96.

Dear

Dear Mr. Young,— "Fenella," Frederick-street, Rockdale, 28 May, 1896.

As the question of the railway from the Clarence to the table-land of New England is again on the board, it has occurred to me that I can give information which will materially assist the Government in coming to a decision on the matter. My experience of over twenty years in the districts mentioned has afforded me exceptional opportunities for acquiring a knowledge of the country, and it came within the scope of my business to study the physical features, so that perhaps I know more about them than anyone else. Having no interests to serve other than the public interest, being free from the influence of any political party, and unbiassed by any local prejudices, I can give you an honest statement of facts which will enable you to come to a decision on this important question. I ask no remuneration, and do not propose to put you to any expense, merely requesting to be afforded access to plans, and that I may be furnished with such lithographs and tracings as I may require to illustrate a report.

I am, &c.,

E. J. STATHAM.

I suppose this can be done without any expense to the Department.—F.H., 2/6/96. Mr. Deane.

Several surveyors have been employed from time to time picking out what appeared to be the best routes for survey, and local residents have had abundant opportunities of airing their views on the matter and getting their suggestions tested. It scarcely seems possible that there should be another route yet unexplored which would eclipse all the rest. At the same time, in such rough country it is not well to be too positive. If Mr. Statham can throw any further light on the subject, or make any suggestions of value, I shall be very glad to receive them and consider them. The question as to whether Guyra and Grafton, Glen Innes and Grafton, or Tenterfield and Casino is the proper connection is, of course, one of railway policy rather than of engineering superiority. I shall be very glad to let Mr. Statham have access to the plans. There would be no expense, I think, as he does not propose to go into the field. Perhaps Mr. Statham could be asked to see me.—H.D., 5/6/96. Under Secretary.

Sir, 8 June, 1896.

With reference to your letter of the 28th ultimo, in which you offer to give the department information which will assist in determining the best route for a railway from the Clarence to the table-land of New England, Mr. Secretary Young desires me to ask that you will be so good as to see Mr. Deane, the Engineer-in-Chief for Railway Construction, on the subject, at your convenience.

I have, &c.,

The Under Secretary and Commissioner for Roads.

E. J. Statham, Esq., "Fenella," Frederick-street, Rockdale.

John See, Esq., M.P., Sydney,—

Dear Sir, Grafton, 3 July, 1896.

I am directed by the Committee of the Chamber of Commerce to ask you to ask the Honorable the Minister for Works to carry out the surveys, as promised by him when surveyors were available, of the Grafton-Glen Innes Railway, as suggested by Mr. Surveyor Lloyd.

I am also requested to state that it is the wish of the Chamber that Mr. Lloyd be sent, if possible.

Thanking you for your replies *re* other matters. I am, &c.,

JAS. C. WILCOX,
Secretary.

No. 186.

J. See, Esq., M.P., to The Secretary for Public Works.

My dear Sir, Sydney, 8 July, 1896.

I herewith hand you a letter from the Secretary of the Chamber of Commerce, asking that a surveyor may be sent to survey the route between Grafton and Glen Innes, recently explored by Mr. Surveyor Lloyd, and which the Honorable Minister for Works promised should be done as soon as a surveyor was available.

Yours &c.,

JOHN SEE.

Mr. Deane.—Jno. P. (for Under Secretary for Public Works and Commissioner for Roads), 9/7/96.

On another paper I have recommended the examination of a route proposed by Mr. Statham, which, I think, should be done first, so that the two routes may be compared before further survey is undertaken.—H. Deane, Engineer-in-Chief for Railway Construction, 13/7/96. The Under Secretary.

Submitted.—F.H., 14/7/96. Under Secretary for Public Works and Commissioner for Roads. Inform Mr. See, M.P., that I have approved of action recommended by Mr. Deane as above.—J.H.Y., 15/7/96. Mr. Deane.—Jno. P. (for Under Secretary for Public Works and Commissioner for Roads), 17/7/96. Seen.—H.D., 17/7/96. Mr. Burge to see.

After seeing the Engineer-in-Chief on this matter, I wired to Mr. Powell to take up this work on completion of the Moree-Inverell survey, first coming to Sydney for instructions.—C. O. Burge, Principal Assistant Engineer for Railway Surveys, 22/7/96.

Sir, 16th July.

With reference to your letter of the 8th instant, enclosing a communication from the Chamber of Commerce, Grafton, asking that a survey may be made of the route for a railway between Grafton and Glen Innes, recently explored by Mr. Surveyor Lloyd, I am directed to inform you that, in the first place, an examination will be made of a route proposed by Mr. Statham, so that the two routes (Mr. Statham's and Mr. Lloyd's) may be compared, before further survey is undertaken.

John See, Esq., M.P. I have, &c.,

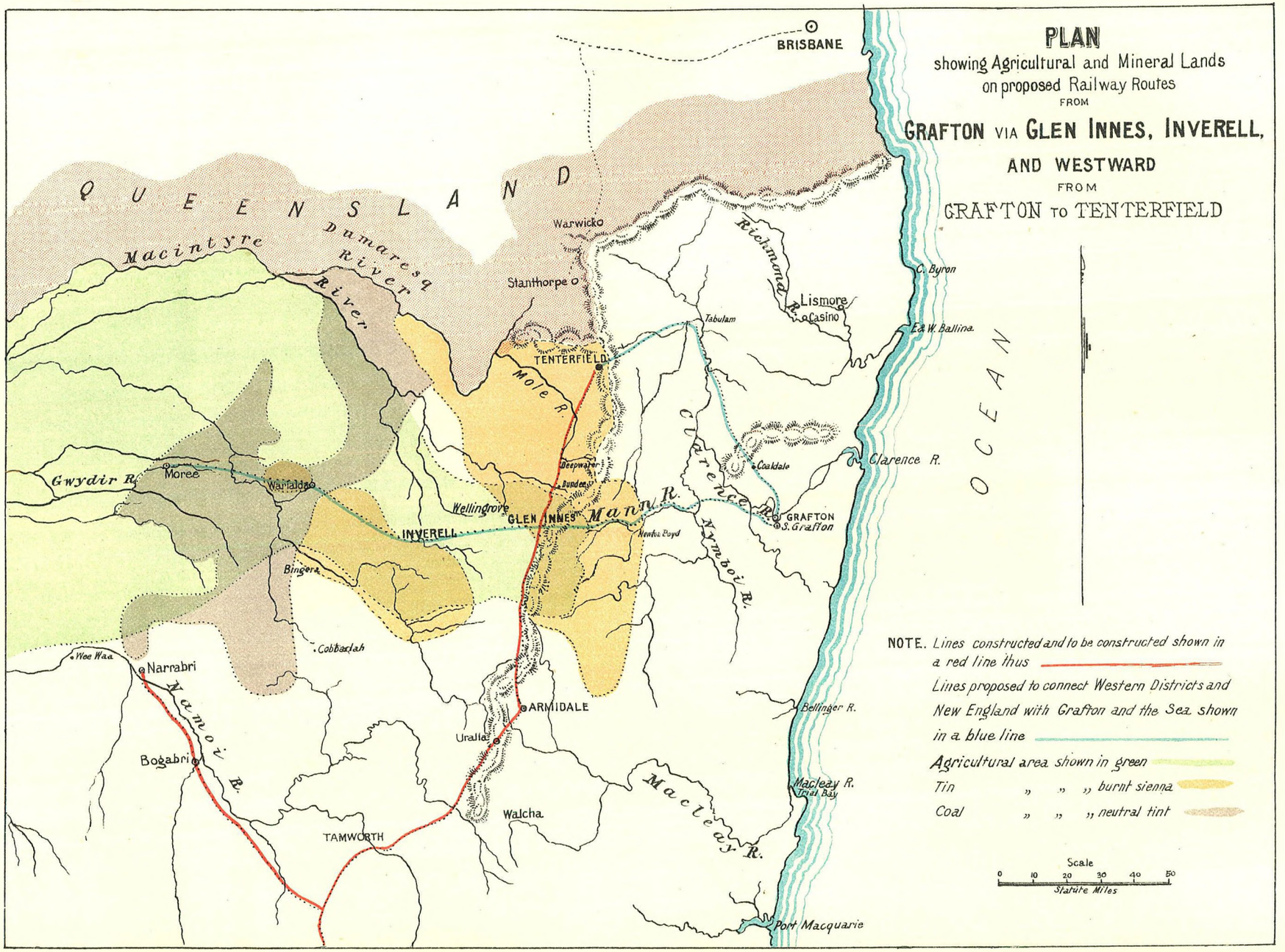
Under Secretary and Commissioner for Roads.

[Four plans.]

Sydney: Charles Potter, Government Printer.—1896.

[3s.] 377—I

"A"



PLAN

showing Agricultural and Mineral Lands
on proposed Railway Routes
FROM
GRAFTON VIA GLEN INNES, INVERELL,
AND WESTWARD
FROM
GRAFTON TO TENTERFIELD

NOTE. Lines constructed and to be constructed shown in a red line thus

Lines proposed to connect Western Districts and New England with Grafton and the Sea shown in a blue line

Agricultural area shown in green

Tin " " " burnt sienna

Coal " " " neutral tint

Scale
0 10 20 30 40 50
Statute Miles

(S19.377-)

"B"

Junction with G.N.R. at 329M 50-35C

330M

C.K. to Jennings

G. N. R.

Permanent

Stated

335M

Beardy Water

GLEN INNES

325M

MITCHELL

OR

340M

MANN

RIVER

Junction with G.N.R. at 321 Miles

320 M

Deviation

325M

330M

No. 1

335M

Oakey Creek

Bond

Branch

345M

RIVER

350M

WARROO

GOUGH

Co. OF

(Sig 377-)

from Newcastle

Co. OF CLIVE

Bald Rock Ck.

355M

Boggy Ck.

Stringers Ck.

MITCHELL

Organ Rock

360M

End of Part 1

Dev. 2

365M

Dev. 3

370M

Dev. 4

Oakey Ck.

Dev. 5

Dev. 6

MANN

RIVER

HENRY

NEWTON

BOYD

Co. OF DRAKE

Boggy Ck.

Cranbourne

Dev. 7

Dev. 8

Dev. 9

MITCHELL

RIVER

End of Part 2

Co. OF GRESHAM

405 M

Dev. 10

410M

Dev. 11

415M

Co. OF CLARENCE

COPMANHURST

Nobby Ck.

Cattle Ck.

CLARENCE

RIVER

OBRIEN

Dev. 12

425M

Dev. 13

430M

Dev. 14

RIVER

GRAFTON

SOUTH GRAFTON

End of Part 3

Heavy Gravel & Cuttings (Trial Line)

Surveyed to Tyndale (Permanent Survey)

N.S.W. Rys

GLEN INNES TO SOUTH GRAFTON

Diagram Plan to accompany Mr Burge's Report ..... R.S. 93-95

Scale

0 1 2 4 6 8 MILES

(Sig 377-)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.

"C"

GLEN INNES to SOUTH GRAFTON RLY

DIAGRAM PLAN

TO ACCOMPANY R.S. 95-65, AND PAPER 95-482.

Scale 0 5 10 15 20 MILES

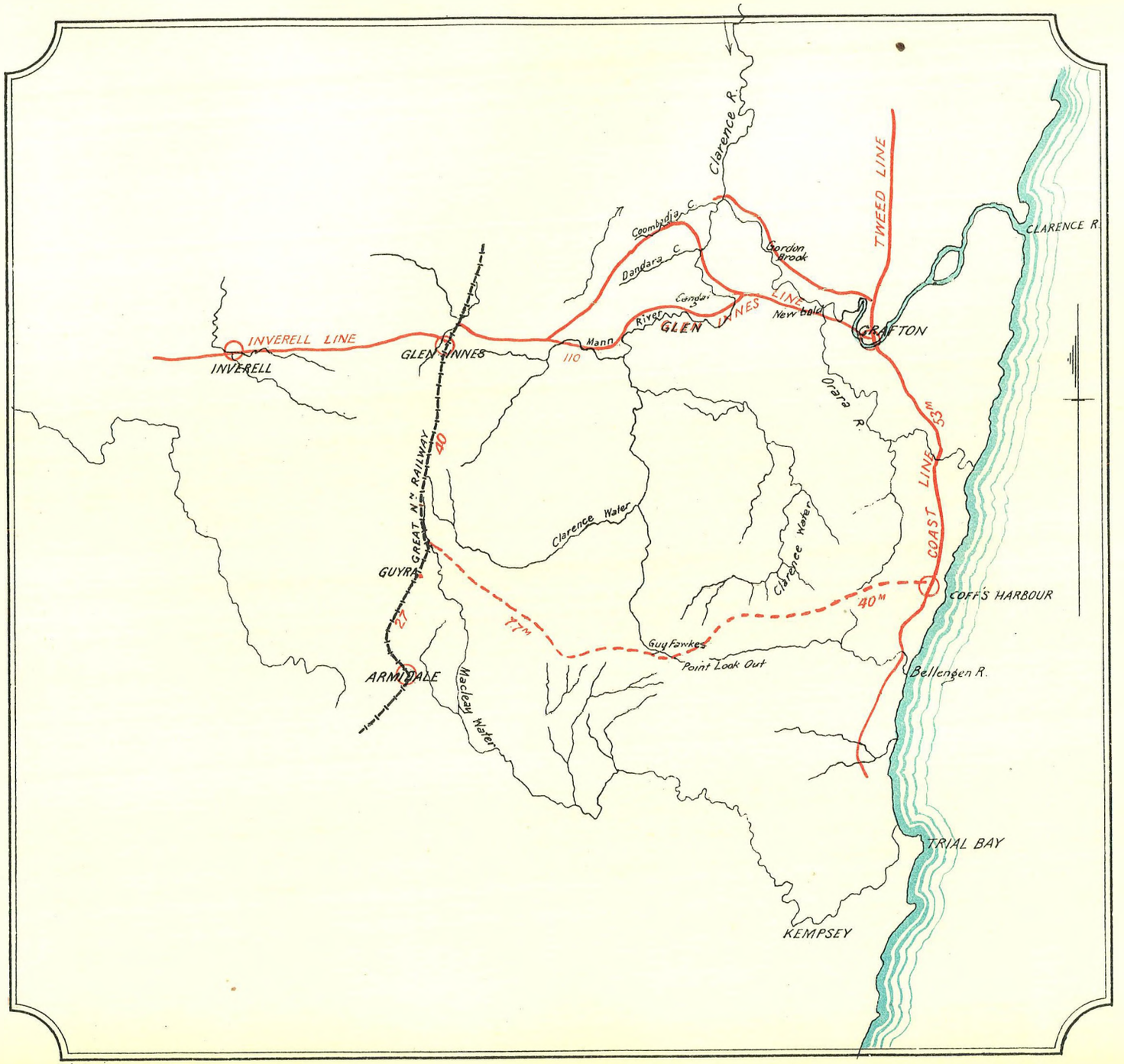
28/2/95.

PACIFIC OCEAN

TENTERFIELD
RAILWAY
NORTHERN
DEEPWATER
GREAT
GLEN INNES
Boorolyl
Waterfalls
Red Range
Kingsgate
Henry
Yarrow Ck
Little Henry River
Sara River
Timbaria River
Rocky River
Mt Hutchinson's Exploration
Cummins Exploration
The Camelback
to Tenterfield
GORDON
DANDAHRA
Mt Warrens Trial Line
MITCHELL
MITCHELL RIVER STAKED
MANN
PERMANENTLY
OR
NEWTON BOYD
Glen Elgin Ck
Cunglebung Mt
Alternative Route
Baboon Ck
Chambone Ck
O.B.X. or Blossome Ck
BUCCARUMBI
Mt Francis
DALMORTON
LITTLE RIVER
Stockyard Ck
Boyd
NYMBOI
NYMBOIDA RIVER
Kangaroo Ck
to Lismore
Richmond Range
COALDALE
COPMANHURST
LINE
MOLESVILLE
GRAFTON
ORARA RIVER
Mt Doubleduke
Evans Hd
North Head or Illuka
ILLUKA
South Head or Woolgoolga
YAMBA
Oakworth Id
Harwood Id
Palmers Island
The Broadwater
MACLEAN
LAWRENCE
Plover Id
Red Rock
from Gaywood
From Maitland

(Sig. 377.)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.



(377-)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAY FROM BROKEN HILL TO MENINDIE.

(PETITION FROM THE MAYOR, ALDERMEN, AND INHABITANTS OF BROKEN HILL AND MENINDIE, IN FAVOUR OF.)

Received by the Legislative Assembly, 23 *June*, 1896.

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales.

The Petition of the Mayor, Aldermen, and inhabitants of Broken Hill and Menindie,—

RESPECTFULLY SHOWETH:—

That your Petitioners have no little confidence in their belief that your Honorable House will favourably entertain the constructing of a railway from Broken Hill to Menindie, in connection with the proposed Sydney to Condobolin line of railway, for the following, among other, reasons:—

That the construction of the missing link of railway communication between Broken Hill and Menindie has become an absolute necessity, not alone in the interests of the inhabitants of Broken Hill, but of the whole country, seeing that it will tend greatly to reduce the cost of living, and to vastly increase trade and commerce throughout New South Wales; give employment to a large number of unemployed men; create the establishment of many small industries; bring about a great increase of population; prevent, in the future, so large a proportion—of £2,000,000 sterling per annum in value—of the manufactures and products of Broken Hill passing over other than the railways of New South Wales, or the great financial benefit accruing thereof passing into other than our own national exchequer; and be, in every way, a reproductive work of immense monetary value.

That a large proportion of your Petitioners earn their livelihood at an occupation far from conducive to health, necessitating a frequent change of air and scene, and which could be obtained by excursions to Menindie; beyond which many of your Petitioners would, for the benefit of their wives and children, avail themselves of the opportunity, through the issue of workman and season tickets, of residing on allotments of land at centres of population between Broken Hill and Menindie.

That your Petitioners respectfully suggest that, conjointly with the construction of a railway from Broken Hill to Menindie, provision should be made for the conservation of the waters of the Darling, by which not only the mining companies would benefit, in the easier and more profitable treatment of hundreds of thousands of tons of low-grade ores, which could be treated at the water's edge, but the nation, in what your Petitioners believe to be a matter of far deeper import and value in the future, the creation of hundreds of thousands of tons of produce, through the irrigation of vast areas of land, so suitable for the purpose, between Broken Hill and Menindie, adjacent to and along the banks of the Darling.

Your Petitioners, therefore, humbly pray that your Honorable House will be pleased to acquiesce in the promotion of, and to facilitate the passing into law, any Bill introduced by the Government having for its object the construction of a railway between Broken Hill and Menindie.

And your Petitioners will ever pray, &c.

[*Here follow* 2,760 *signatures.*]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAY PASSES ISSUED TO DISCHARGED PRISONERS.

(RETURN RESPECTING.)

Printed under No. 7 Report from Printing Committee, 2 July, 1896.

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 2nd June, 1896, That there be laid upon the Table of this House a Return showing :—

"(1.) The number of discharged prisoners to whom railway passes were "issued in each of the years 1891 to 1895 inclusive.

"(2.) The number of discharged prisoners receiving passes to Bourke "during the same years."

(Mr. O'Reilly, for Mr. Millen.)

RETURN of Railway Passes issued to Discharged Prisoners during the years 1891 to 1895 inclusive.

Number of Passes issued to Discharged Prisoners.					Number of Passes to Bourke issued to Discharged Prisoners.				
1891.	1892.	1893.	1894.	1895.	1891.	1892.	1893.	1894.	1895.
1,638	1,910	1,876	1,694	1,733	67	80	61	36	33

GEORGE MILLER,
Comptroller-General of Prisons.

19th June, 1896.

[3*d*.] 211—

[605 copies—Approximate Cost of Printing (labour and material), £1 0s. 9d.]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REBATE ON RAILWAY RATES FOR CARRIAGE OF WHEAT.

(RETURN RESPECTING.)

Printed under No. 13 *Report from Printing Committee*, 18 *August*, 1896.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 16th July, 1896, That there be laid upon the Table of this House,—

"A Return, giving the names of persons or firms who have received "rebates on the existing Railway Rates for the Carriage of Wheat on the "down journey from either Sydney or Newcastle, and the amount of such "rebates paid to each person or firm; and the like information on flour "and its offal on the up journey."

(Mr. Wright.)

RETURN giving the names of persons or firms who have received rebates on the existing Railway Rates for the Carriage of Wheat on the down journey from either Sydney or Newcastle, and the amount of such rebates paid to each person or firm; and the like information on flour and its offal on the up journey.

Wheat on the down journey.			Flour, &c., on the up journey.
Name.	Amount.	Particulars.	
	£ s. d.		
W. Connelly	206 17 7	Agreed that ordinary A rates should be charged on wheat carried from Darling Harbour to Goulburn to secure traffic in connection with special shipments contracted for prior to alteration of rate. The wheat to be carried at convenience of Department. Quantity carried, 1,504 tons 11 cwt. 2 qrs.	Nil.
W. S. Kimpton and Son	189 10 10	In consideration of the foregoing concession. Quantity carried, 1,381 tons 15 cwt.	

[3*d*.] 332—

[605 copies—Approximate Cost of Printing (labour and material), £1 0s. 9d.]

1896.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE, APPENDICES, AND PLANS,

RELATING TO THE

PROPOSED ELECTRIC TRAMWAY

FROM

CIRCULAR QUAY, SYDNEY, TO THE REDFERN RAILWAY STATION; AND ALSO ALONG HARRIS-ST. TO THE INTERSECTION OF JOHN-ST.

Presented to Parliament in accordance with the provisions of the Public Works Act, 51 Vic. No. 37.

Printed under No. 1 *Report from Printing Committee,* 21 *May,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

[5*s*.] 48—*a* 1896.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL

The Honorable Frederick Thomas Humphery, Vice-Chairman
The Honorable John Davies, C M G
The Honorable James Hoskins
The Honorable Charles James Roberts, C M G.
The Honorable William Joseph Trickett.

LEGISLATIVE ASSEMBLY.

Thomas Thomson Ewing, Esquire, Chairman
Henry Clarke, Esquire
Charles Alfred Lee, Esquire
John Lionel Fegan, Esquire
Thomas Henry Hassall, Esquire
George Black, Esquire
Francis Augustus Wright Esquire

GENERAL INDEX.

LIST OF WITNESSES

APPENDIX

PLANS

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

ELECTRIC TRAMWAY FROM CIRCULAR QUAY, SYDNEY, TO THE REDFERN RAILWAY STATION; AND ALSO ALONG HARRIS-STREET TO THE INTERSECTION OF JOHN-STREET.

REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, and the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, to whom was referred the duty of considering and reporting upon "the expediency of constructing a line of Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street," have, after due inquiry, resolved that it is expedient the proposed tramway should be constructed; and, in accordance with the provision of sub-section IV of clause 13 of the Public Works Act, report their resolution to the Legislative Assembly:—

History of the proposed work.

1. On 1st October, 1889, the Minister moved in the Legislative Assembly that the question of constructing a cable tramway along George, Pitt, and Harris Streets be referred to the Parliamentary Standing Committee on Public Works for consideration and report. The Committee reported, on 4th June, 1891, that it was not expedient to construct the proposed tramway. In arriving at this decision they thought it would be wise, before expending the large amount of money represented by the estimate (£120,000), to await the results of the construction of the King-street to Ocean-street line; there was also a difference of opinion among the Committee as to which system would be more suitable—the cable or electric traction. On 18th September, 1895, the Minister gave instructions that the necessary information should be prepared to enable him to refer the proposal now under consideration to the Public Works Committee. The Railway Commissioners reported on 6th December, 1895. The Minister, on 11th December last, moved in the Legislative Assembly—"That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of constructing a line of Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street."

Official description.

2. The proposed electric tramway will start on the eastern side of Circular Quay, the double track following the curvature of the Quay, passing the wharfs of the various ferry companies, thence by way of Queen's Wharf to George-street, and along the centre of that thoroughfare until it junctions with the existing steam tramway opposite the Benevolent Asylum. From that point to the Railway Station, and to Harris-street, the existing tracks are used. At the corner of George-street West and Harris-street a double track junction provides for the connection of the proposed tramway along Harris-street, on which street the double track will be laid in the centre until reaching Church-street; which extension beyond John-street is rendered necessary for shunting purposes. The motive power is to be generated at the existing power-house of the Ocean-street cable tramway at Rushcutters' Bay. The

electric

electric current will be conveyed thence to George-street by means of buried armoured cables, which will there be connected with accumulators, and from thence the overhead wires will convey the current to the motors on the cars. For the greater part of the distance it is proposed to carry the overhead wires on ornamental iron poles, erected in the centre of the streets at distances of about 120 feet. These will be protected by a low kerbing, acting as a wheel-guard. In the narrow portion of George-street, below Bridge-street, span-wires will be adopted, as also in some other portions, such as junctions, where it will be found expedient to use this method of construction. The total length of line to be constructed is about 6¼ miles, single track. The gradients vary from 1 in 17 to 1 in 457, with only a few short lengths of level. The gauge is to be that of the existing tramways—4 feet 8½ inches.

Estimated cost.

3. The estimates of cost were prepared by the Engineer-in-Chief of the Railway Construction Branch, in conjunction with the Railway Commissioners and the Electrical Engineer to the Department of Railways. A summary of the figures gives the following totals :—

Road construction	£62,500	
Car-house	9,200	
	71,700	
Say		72,000
Outside electric work		15,000
Power plant	12,800	
Rolling stock	23,200	
		36,000
Total...		£123,000

Since the foregoing estimates were made up an extension has been proposed by the Railway Commissioners, at Circular Quay and opposite to the Railway Station, the cost of which will be £7,500. These additions bring the total estimated cost of the proposed work to £130,500.

Railway Commissioners' Report.

4. The Railway Commissioners, in their Report, point out that the proposed electric tramway will afford a convenient means of communication between the most important parts of the city. It will also convey the bulk of the traffic to the Railway Station, thus relieving the existing steam tram-lines. They estimate the total annual cost of the scheme submitted, without the alterations, at £32,497, the items being:—Interest, at 3¼ per cent. on the capital cost of £123,000, £3,997 (£4,241 with alterations); cost of motive power and car repairs, including electric car drivers, £15,000; cost of conducting traffic and general expenses, £11,000; cost of permanent-way, maintenance and repairs, £2,500. The annual revenue is expected to amount to £45,000, and the estimated annual profit to £12,503, being more than 10 per cent. on the £123,000. The Commissioners state that for years past they have "called attention to the great necessity for relieving the Bridge-street yard and Elizabeth-street of a portion of the traffic, so as to enable better facilities to be afforded to the districts served by the existing lines"; and they "propose ultimately, when the western suburbs lines are converted to the electric system, to divert nearly the whole of the trams running to and from those suburbs to the George-street line, leaving the Elizabeth-street line available for the eastern suburbs traffic." By this means a more frequent service in all directions will be afforded to meet the convenience of the travelling public.

Witnesses examined.

5. After hearing the evidence of the Engineer-in-Chief of the Railway Construction Branch (who submitted particulars and details of cost and exhibited plans illustrative of the proposed tramway), the Committee examined the following witnesses:—The Secretary to the Railway Commissioners; the Electrical Engineer to the Department of Railways; the Tramway Traffic Superintendent; the Registrar of the Metropolitan Transit Commission; Mr. J. Musson, C.E.; Mr. H. B. Lassetter (Messrs. F. Lassetter & Co., George-street); Mr. J. Macpherson (Messrs. Holdsworth, Macpherson, & Co., George-street); Mr. W. Newman (Messrs. David Jones & Co., George-street); the Mayor of Sydney (Alderman I. E. Ives); Mr. Norman Selfe, M.I.C.E.; the Secretary to the Electric Telegraph Department; Mr. J. O. Callender, M.I.C.E., Consulting Electrical Engineer; Alderman C. E. Jeanneret; Mr. A. C. F. Webb, M.I.C.E., Consulting Electrical Engineer; Mr. T. Raw, Engineer, Government Architect's Branch, Department of Public Works; Mr. J. Pope (Messrs. Farmer & Co., Pitt and George Streets); and Professor Threlfall, of the University of Sydney.

6. The Departmental estimate of the probable traffic on the proposed tramway is, in round figures, 5,000,000 passengers on the Railway trams, and 2,000,000 passengers on the Harris-street, or Ultimo trams, or a total of 7,000,000 passengers per annum. At current fares, this large traffic is expected to yield an annual revenue of £45,000, George-street returns being estimated at £32,000, and Harris-street £13,000. In the opinion of the Tramway Traffic Superintendent the foregoing estimate is by no means an excessive one considering that the King to Ocean Street cable tramway, which, it is said, does not serve so large a population, carries nearly 4,000,000 passengers annually. The Registrar of the Metropolitan Transit Commission, under examination, regarded the total of 2,000,000 passengers per annum as the probable traffic on the Harris-street section of the line as a very large estimate. That officer placed returns before the Committee which give the estimated number of passengers carried annually by omnibuses plying between Pyrmont and Sydney as 689,156, and between the Redfern Railway Station and Sydney at 2,328,720. These estimates, however, do not appear to have taken into account the very considerable intermediate passenger traffic which would in all probability make use of the tramway service. Departmental estimate of traffic.

7. It is reprepresented, on behalf of the Department, that the electric tramway can be run at a cost of $9\frac{1}{4}$d. per tram-mile, which is stated to be a less sum than that incurred on any tramway either in this city or in Melbourne. On the King to Ocean Street cable line the expense is $10\frac{3}{4}$d., on the North Shore electric line it is 1s. 2d., the Melbourne cable tramway costs 1s., and the steam trams in Sydney cost 1s. 10d. per tram-mile to run, the comparisons to be drawn being, of course, qualified by the accommodation afforded by the varying circumstances of the several systems. Cost per tram-mile.

8. The Superintendent of the Metropolitan Fire Brigades does not apprehend much difficulty from the overhead wires, and he offers no objection to the scheme. Possible obstruction to the Fire Brigades.

9. Opposition has been offered to the proposal to construct an electric tramway in George-street, on the ground that the extension of the railway into the city is a work of much greater necessity, and will thereby be delayed. In the opinion of the Committee George-street has a traffic peculiar to itself which will be sufficiently heavy to ensure a good return on the capital outlay even should the railway be extended into the city. And the Committee, in making their recommendation, desire to express the opinion that the construction of the proposed tramway should not be regarded as retarding the consideration by the Government of any proposed extension of the railway into the city. The City Railway.

10. A comparison of the width of George-street with that of important thoroughfares in other cities carrying either cable or electric tramways is not altogether unfavourable to the former. According to the Departmental statement, the width of George-street in its narrowest part—between Queen's Wharf Road and Bridge-street—is 33 feet; in every other portion of that thoroughfare the minimum width ranges from 43 feet to 75 feet between the kerbs. A portion of Broadway, New York, which has a cable tram service and a very heavy traffic, varies in width from 42 feet to 43 feet. Clark-street, Chicago, having an electric tramway, with centre poles and a very heavy traffic, is 47 feet wide. At Minneapolis and St. Paul there are electric overhead systems, with centre poles; the thoroughfares through which the trams run range from 40 feet to 70 feet in width. At Havre, electric trams are run along streets the respective widths of which are 48 feet, 33 feet, and 25 feet. The minimum width in Leeds is 34 feet, in Birmingham from 36 feet to 45 feet, centre poles being used in each case. The experience of other parts of the world, therefore, leads to the conclusion that George-street is sufficiently wide, even at its narrowest part, to carry a double line of tramway, provided the traffic be properly regulated and controlled. Width of streets—a comparison.

11. The proposal to construct a tramway in George-street raises the question of traffic regulation. The traffic is congested in the principal streets of the city at certain times of the day. Heavily laden lorries, drays, and vans should not be allowed to impede the traffic when other routes as suitable and less crowded are available. The opposition, based upon the obstruction to the traffic, originates in the fact that it is not generally understood that the tram-cars will not be an addition Regulation and control of traffic in the metropolis.

to

to the present traffic but in substitution for a portion of it. A large proportion of the heavy vehicular traffic should be diverted from George-street and Pitt-street to less important thoroughfares.

Advance of electric traction.

12. Electricity as applied to street tramways has made immense strides in Europe and America during the last few years. Numerous instances may be cited in which electricity has displaced, and is displacing, other methods of traction. In the city of Bristol, England, a line of electric tramways on the overhead-wire principle is working satisfactorily. Birmingham, too, has adopted the electric overhead-wire system. There is also an electric overhead line in the Isle of Man. Some of the tramways in Dublin are worked on the electric overhead system. The Leeds Corporation has passed resolutions authorising an expenditure of over £200,000 for the conversion of their lines to the overhead trolley principle. Already one important line is in working order, and the system is to be considerably extended. There are several proposals for new lines in England, and this notwithstanding the stringency of the Board of Trade Regulations. On the Continent, at Brussels, Hamburg, Stuttgart, Lubeck, Havre, and elsewhere, electric overhead systems are working successfully. In the United States the overhead wire is rapidly superseding all other methods. In Chicago there are 304 miles of electric tramways, as against 81 miles worked by the cable. A portion of the cable system in San Francisco is being replaced by the electric, using overhead wires; and cable lines in Philadelphia and Pittsburg have been converted to electric in order to have one uniform system throughout.

Various forms of electric traction.

13. Having arrived at the conclusion that electricity is the power being adopted in most parts of the world for street traffic—and is rapidly replacing all other methods—it became necessary for the Committee to decide between the various systems, viz.:—

1. Accumulator.
2. Conduit.
3. Overhead wire.

1. *The Accumulator system* is not a commercial success anywhere, the weight necessary making it cumbrous, and the cost of working preventing it from being generally adopted.

2. *The Conduit system*, although it renders unnecessary the erection of poles in the streets, cannot be entertained—

(1) Because of the heavy initial expense.

(2) Because of the improbability of its acceptance for the suburban area, thus making it difficult to obtain an uniform system over the city and suburbs.

3. *The Overhead-wire system* has the advantage of comparative lowness in initial cost, with the certainty of giving uniformity over all adjacent areas. It has also the further advantage of cheapness in working, and is the system which has found favour in most cities where electric traction has been adopted.

Utilization of surplus power at Rushcutters' Bay.

14. The plant at Rushcutters' Bay can only be regarded as capable of supplying the generating power for electric traction over a limited portion of the city. When extensions take place a generating station will be essential in a central position, and where coal can be landed at the lowest cost; therefore, pending that, any outlay at Rushcutters' Bay cable station should be as small as possible. The 500 horse-power at present available there should be utilised, any incidental alterations being carried out as cheaply as possible. It has been stated in evidence that the feeding cable need not be buried, and that it can be carried on poles with perfect safety. The Committee have not been able to obtain in detail reliable figures as to the saving that would be effected, but it will be at the lowest estimate £5,000. Two important matters are bound up in the question which have not yet received Executive consideration—

(1) The extension of the King to Ocean Street cable tram.

(2) The adoption of electric traction in lieu of the present steam service.

If it be intended to extend the cable tram, then the machinery at Rushcutters' Bay should be used for cable traction alone. If electric traction is to replace the present steam service it will be well to select a site for a central generating station, and erect the power plant there, instead of spending a large sum of money on temporary works which may be abandoned in the near future.

15. The streets of a city are designed primarily as a means of transit, and not as alleyways for telephone or telegraph lines. In the construction of this tramway, in regard to the details, electrical and mechanical, every known means should be adopted to reduce external disturbance to a minimum. This having been done should disturbance still exist it must be dealt with by alterations to the lines so affected. Streets for traffic.

16. No serious disturbance to the telegraph lines seems to be apprehended, but in regard to telephone wires, although the evidence of experts varies, the weight of evidence proves that they will be injuriously affected. When a system of electric tramways, using an overhead trolley wire in conjunction with an uninsulated return, runs adjacent to telephone lines using an earth return, there is without doubt some disturbance caused to the latter. This disturbance, which may be greater or less, according to the care with which the tramway lines are erected, arises from two causes:— Effect of electric traction on telegraph and telephone wires and pipes.

1. Stray currents, leaking from the earth return wire, and affecting all earthed wires in the vicinity to a greater or lesser degree.
2. Induction, due to variation in the strength of the current on the tramway conductors, caused primarily by the variation in power consumed by the motors when starting or stopping, and secondly by bad or varying contacts between the car and trolley wire, and car and rails.

Taking, first, the disturbance arising from stray currents: By providing ample sectional area for the return current, an efficient bonding of the rails, and placing the rails in direct contact with the concrete, leakage or stray currents will be reduced to a minimum. The disturbance arising from induction is much more difficult to deal with, and although much can be done by using a special form of trolley or bow, and ensuring perfect contact with the trolley wire and rails, there still remains the disturbance caused by the variation of current in starting and stopping cars. This cannot be removed, but may be reduced by the adoption of proper precautions. The inevitable fluctuation of the electric current on the tramway system will still be prejudicial to all telephone lines in the vicinity. It is improbable, with the precautions proposed to be taken, that there will be much injury to pipes from electrolysis; but if any, it can readily be ascertained and corrected.

17. There appears to be only one method of absolutely counteracting this disturbance, and this consists in discarding the earth as a return for the telephones and adopting a complete metallic circuit. In a system of telephone lines with metallic circuits, the two wires to each subscriber are run parallel and as close to each other as possible, thus any exterior disturbing cause affects both wires equally, and the current in the two wires being in opposite directions the disturbances are neutralised. The alteration of a system from earth to metallic returns involves the duplication of all wires, at a considerable cost. This is, however, the greatest item to be faced, as the existing instruments can be utilised for either system. The adoption of metallic circuits will, it is admitted, give complete immunity from disturbance and in addition greatly improve the telephone service, ensuring perfect and complete privacy. The evidence shows that the advantages of metallic returns to a telephone system are recognised throughout the world, and almost all large cities have either already converted their systems or are now doing so, Berlin, which is an exception, having an obsolete service. Metallic circuit—its effect.

18. That the work of conversion can be done without material interference to subscribers is proved by the experience of other cities. Since the telephones in such places as Christiana and Stockholm are satisfactorily worked on an annual charge to each subscriber of about £5 10s., with all the extra cost of metallic returns and underground mains, there does not appear to be any reason why Sydney should be committed to an obsolete and admittedly inefficient system for a period of twenty years, and have to face an enormously augmented cost of conversion at the end of that period because of an expansion of the inferior system during the interval. It will be necessary either to reconstruct the present switch-board or to obtain one of the latest kind specially designed for metallic circuits. Conversion possible without great public inconvenience.

Metallic circuits must ultimately be adopted irrespective of electric trams.

19. The Electric Telegraph Department, supported by the evidence of scientific witnesses, admits that the introduction of metallic circuits will sooner or later become imperative, irrespective of the introduction of electric traction. A system of telephones using earth returns is so sensitive that it is peculiarly susceptible to disturbance from exterior causes—earth currents, thunderstorms, and telegraph wires—while with such a system it is practically impossible to prevent what is known as "cross-talk." All these difficulties disappear at once on the adoption of metallic circuits, and complete privacy and improved communication are at once secured. In London and other English cities copper wire has been largely used to replace the ordinary galvanised-iron wire, but this alteration became a necessity partly through the corrosive effect of the damp and fog-laden atmosphere of those cities, and although to replace iron by copper wire would be an improvement, this precaution does not appear to be absolutely necessary in Sydney. There is no doubt, however, that, electrically, copper wire is superior to iron.

Present telephone system.

20. The Secretary to the Electric Telegraph Department gives the cost of the present telephone service at £108,000, yielding a profit of about 15 per cent. The State should seek to give the best service at the lowest paying rate, and the Sydney telephone system does neither one nor the other. Not only are messages by telephone liable to be overheard, but Professor Threlfall stated anyone knowing the Morse alphabet could "read telegraphic messages all day long," the telephone picking them from the telegraph line. The telephone service, as it is at present, therefore, not only fails in usefulness from ineffectiveness, but is liable to frustrate all efforts put forth to preserve the secrecy of the telegraphic service.

Cost of conversion.

21. The estimated cost of conversion to metallic circuits is stated by the Secretary to the Electric Telegraph Department to be, in his opinion, £236,456. Since the present system cost only £108,000 the statement is remarkable—it carries with it, however, the ultimate abandonment of the whole of the present system, much of which, it has been previously explained, can be utilised in the new service. The Engineer-in-Chief for Railway Construction; Mr. Callender, Electrical Engineer; and Mr. Raw, give the amount as about £50,000; and Professor Threlfall believes this figure to be a fairly correct approximation.

Decision of the Committee.

22. The Committee have, by six votes to five, affirmed the expediency of constructing the proposed electric tramway.

Resolution passed by the Committee.

23. The Committee considered the evidence taken in their inquiry, with a view to arriving at a decision upon it, on Friday 1st and Wednesday the 6th inst., and the following extract from the Minutes of Proceedings will show the resolution that was passed:—

On Friday, 1st May, 1896:—

Mr. Trickett moved—

"That in the opinion of the Committee it is expedient the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station, and also along Harris-street to the intersection of John-street, as referred to the Committee by the Legislative Assembly, be carried out."

Mr. Lee seconded the motion.

Mr. Humphery moved—

"That the motion be amended by the omission of all the words after the word 'Station,'"

Mr. Wright seconded the amendment.

The debate upon the motion and amendment was adjourned until Wednesday, 6th May.

On Wednesday, 6th May, 1896:—

The adjourned debate upon Mr. Trickett's motion:—

"That in the opinion of the Committee it is expedient the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station, and also along Harris-street to the intersection of John-street, as referred to the Committee by the Legislative Assembly, be carried out," upon which Mr. Humphery had moved as an amendment,—

"That the motion be amended by the omission of all the words after the word 'Station'"—

was resumed.

Upon

Upon the question that "the words proposed to be omitted stand part of the motion," the Committee divided as follows:—

Ayes, 6.	Noes, 5.
Mr. Ewing,	Mr. Humphery,
Mr. Roberts,	Mr. Davies,
Mr. Trickett,	Mr. Clarke,
Mr. Lee,	Mr. Hassall,
Mr. Fegan,	Mr. Wright.
Mr. Black.	

The amendment was therefore negatived.

The motion was then passed on the following division:—

Ayes, 6.	Noes, 5.
Mr. Ewing,	Mr. Humphery,
Mr. Roberts,	Mr. Davies,
Mr. Trickett,	Mr. Clarke,
Mr. Lee,	Mr. Hassall,
Mr. Fegan,	Mr. Wright.
Mr. Black.	

THOS. EWING,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 8 May, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

ELECTRIC TRAMWAY FROM CIRCULAR QUAY, SYDNEY, TO THE REDFERN RAILWAY STATION; AND ALSO ALONG HARRIS-STREET TO THE INTERSECTION OF JOHN-STREET.

WEDNESDAY, 18 *MARCH*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee proceeded to consider the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street, to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn and examined:—

1. *Chairman.*] You are acquainted with the details of this proposed work;—what plans do you put in? A map showing the route by a red line of 8 chains scale; a 40 feet plan in two parts, showing the course of the line along George-street and Harris-street; two sections gradient diagrams, one of George-street and the other of Harris-street; a plan showing the terminus at Circular Quay and proposed additions; a plan showing the junction at the Railway Station, Redfern; and a drawing of the permanent-way. H. Deane, Esq. 18 Mar., 1896.

2. Have you any written statement to make dealing with the line? Yes, a short statement showing the steps that have been taken from the commencement. It contains the history, description, and cost of the line, and is as follows:—

George-street Tramway.

The first steps in regard to the construction of a line of tramway in George-street would appear to have been taken on 1st October, 1889, when Mr. Bruce Smith moved in the Legislative Assembly that the question of constructing a cable tramway along George, Pitt, and Harris Streets be referred for the consideration of the Parliamentary Standing Committee on Public Works.

The motion having been passed, the Committee reported accordingly on 4th June, 1891, their decision being that at that time it was not expedient to construct the proposed tramway. This decision was based on what they considered as important reasons. In the first place, they thought it would be wise, before expending the large amount of money represented by the estimate (£120,000), to await the results of the construction of the King-street to Ocean-street line, and there was also a difference of opinion among the Committee as to which system would be more suitable—the cable or the electric.

The following is a short description of the cable line then proposed, together with estimated cost, so that a comparison can be made with the present one:—

It was intended that the line should start at the intersection of Church and Harris Streets, proceed along that street to George-street, turn into George-street by a sharp curve, and continue along George-street into Queen-street, and thence turn into Pitt-street, along which it would proceed as far as Bathurst-street. Turning into Bathurst-street it would continue until George-street was again reached, and from that point it would proceed parallel to the down track as far as the terminus at the foot of Harris-street.

The length was 6¼ miles. The estimated cost of construction £120,000, and the annual cost of working was estimated at £43,000. The value of the passenger traffic was estimated at £60,000. The cars were to run every three minutes.

The Railway Commissioners in their report of 17th September, 1889, estimated that the annual profit on this line would be £17,000, or equal to 14 per cent. on the investment. The proposal, they considered, would afford a convenient mode of communication between the most important parts of the city, and it would also carry most of the traffic to the railway station, and thus relieve the present steam tramway.

It was thought at the time that the only possible method of conducting traffic in the somewhat narrow and crowded streets of the city was that proposed, by which the cars running towards Circular Quay should go down George-street, and return *viâ* Pitt-street. By thus dividing the traffic, delays and interruptions would be minimised, and enable a frequent and regular service to be maintained. It was pointed out that this method of running up one street and down another was open to certain obvious objections, but it had been successfully adopted in many instances, notably in Philadelphia, a city of nearly 1,000,000 inhabitants. Opinions have now however completely altered with regard to this, which I will presently explain.

The

H. Deane, Esq.

18 Mar., 1896.

The present proposal is one by which the over-head wire electric system would be adopted.

On the 18th September, 1895, Mr. Secretary Young gave instructions that the necessary information should be prepared to enable him to refer this proposal to the Public Works Committee. The Railway Commissioners on the 12th October, 1895, were asked to report in accordance with the provision of the Public Works Act, and their report, which is dated 6th December, 1895, is as follows:—

Office of the Railway Commissioners, Sydney, 6 December, 1895.

PROPOSED Overhead Wire Electric Tramway—Circular Quay, Sydney, to the Railway Station and Pyrmont, *vid* Harris-street. Length, 3 miles and 12 chains of double line.

IN accordance with Section 13 of the "Public Works Act of 1888" we beg to report as follows:—

Cost of Construction—	
Cost of permanent-way (including alteration of pipes) and car-shed (as estimated by the Engineer-in-Chief for Construction)	£72,000
Overhead wires, bonding, telephones, &c., and power cables	15,000
Generating power at engine-house, rolling-stock, and motors	36,000
Total estimated cost of construction	£123,000
Annual Cost—	
Interest, at 3¼ per cent. on capital cost	3,997
Estimated cost of motive power and car repairs, including electric car drivers	15,000
Estimated cost of conducting traffic and general expenses	11,000
Estimated cost of permanent-way maintenance and repairs	2,500
Total estimated annual cost	£32,497
Annual Revenue—	
Estimated value of passenger traffic	45,000
Estimated annual profit	£12,503

or equal to over 10 per cent. on investment.

The proposed line will afford a convenient mode of communication between the most important parts of the city. It will also convey the bulk of the traffic to the railway station, and thus relieve the present steam tramway lines.

We have for years past called attention to the great necessity for relieving the Bridge-street yard and Elizabeth-street of a portion of the traffic, so as to enable better facilities to be afforded to the districts served by the existing lines; and we propose ultimately, when the western suburbs lines are converted to the electric system, to divert nearly the whole of the trams running to and from those suburbs to the George-street line, leaving the Elizabeth-street line available for the eastern suburbs traffic. By this means we hope to be able to afford a more frequent service in all directions.

The Seal of the Railway Commissioners of New South Wales was affixed hereunto this 6th day of December, 1895, in the presence of—
H. MCLACHLAN, Secretary.

E. M. G. EDDY, Chief Commissioner. (L.S.)
CHARLES OLIVER, Commissioner. (L.S.)
W. M. FEHON, Commissioner. (L.S.)

The following is the official description of the line:—

Proposed electric tramway from Circular Quay, *via* George-street, to the Redfern Railway Station, and to Harris-street, Ultimo, in the City of Sydney—

Length of track	6¼ miles.
Estimated cost	£123,000.

Starting with a loop opposite the Port Jackson S.S. Company's wharf at Circular Quay, the double track follows the curvature of the Quay, passing the wharfs of the various ferry companies, thence by way of Queen's Wharf to George-street, and along the centre of George-street in a southerly direction until it junctions with the existing steam tramway opposite the Benevolent Asylum. From that point to the Railway Station and to Harris-street, the existing tracks are used. At the corner of George-street West and Harris-street, a double track junction provides for the connection of the proposed tramway along Harris-street, on which street the double track will be laid in the centre until reaching the proposed terminus at Church-street.

The motive power it is proposed to generate at the existing power-house of the Ocean-street cable tramway, which is located at Rushcutter's Bay. The electric current will be conveyed thence to George-street by means of buried armoured cables, which will there be connected with the overhead wires by means of which the current is conveyed to the motors on the cars.

The overhead wires will, for the greater part of the distance, be carried on ornamental iron poles, erected in the centre of the streets at distances of about 120 feet. These will be protected by a low kerbing acting as wheel-guard. In the narrow portion of George-street, below Bridge-street, span-wire construction will be used, as also in some other portions, such as junctions, where it will be found expedient to use this method of construction.

A car-house will be erected in a position adjacent to the proposed tramway.

The total length of line to be constructed is about 6¼ miles, single track.

The gradients vary from 1 in 17 to 1 in 457, with only a few short lengths of level, while the curves will be numerous, although, with the exception of a few, they will not be sharp.

The gauge is to be 4 feet 8½ inches, as on the existing tramways.

Estimate.

Road	£62,500		
Car-house	9,200		
	£71,700	(say)	£72,000
Outside electric work	...	...	15,000
Power plant	12,800		
Rolling-stock	23,200		
			£36,000
Total			£123,000

It

H. Deane, Esq. 18 Mar., 1896.

It will be seen that the present proposal differs from the former one, not only in the matter of motive power, but also in that of location; the design includes a double line of rails throughout, instead of dividing the traffic by running it up one street and down another. It was thought originally that the traffic of George-street was too heavy, and the width of the street insufficient, to permit of a double line being conveniently laid; and it was pointed out that in Philadelphia, where some of the streets are narrow, this method had been adopted. In Philadelphia, however, the streets where this method is adopted are very much narrower than is the case with George-street; and in other cities, streets as narrow or narrower than George-street, and carrying equally heavy traffic, have double lines of rails laid down. Perhaps the most important instance is that of Broadway, New York, which in spite of its name, is, at the city end, very narrow, the width between the kerbs being only 42 feet. George-street in its crowded part near the General Post Office, measures 43 feet.

In Boston, Massachusetts, U.S.A., the streets are very much narrower, yet often two lines of rails are laid down them.

In Leeds, England, where it is proposed to run a double line of tramway, from Kirkstall to Roundhay Park, the width between the kerbs in Boar-lane, where the traffic is most constricted, is only 34 feet.

London and Birmingham also have double line tramways running through narrower streets than George-street.

By the construction of the tramway along George-street the traffic must eventually be very much lightened, as a number of omnibus lines which at present run will thereby be rendered unnecessary.

The overhead electric system of construction is now extensively used throughout the United States and Canada, and is superseding the cable system. It is also extensively used on the Continent of Europe, and several lines of this kind have been constructed in the United Kingdom.

Since submitting this proposal to Parliament the Railway Commissioners expressed a desire that the loop at the Circular Quay, and shown on the plan in green, should be further extended so as to pass through the gates.

Near the Railway Station, at Redfern, and opposite the end of Devonshire-street, an alteration has also been suggested, shown in green on the plan. These additions, estimated to cost £7,500, will bring the total to £130,500.

The proposal is to deliver passengers in the same position as at present at the Redfern Railway Station, but there will require to be some extra wiring laid down. With regard to the plan of the junction at Redfern, the red lines show the route as originally proposed, and as submitted to Parliament, and referred to the Committee. The lines go along George-street, and run right out to the Pitt-street line, and effect a junction there. The lines along Harris-street run right out to meet the existing line in George-street and make a junction there. The Railway Commissioners wish that the lines shown in green should be carried out, in order to make a more effective junction, to enable the traffic to be carried on with greater convenience. There is a connection also shown in green, which will enable the Railway trams to go up to the Railway Station. The trams to Harris-street, coming along George-street, would turn off at the green line, and, without passing the junction, turning into Devonshire-street and the Railway platforms, would junction again with the existing line near Terminus-street, and then get on to the turn-off into Harris-street.

3. Is the line shown in green single or double? Double. The red line on the plan of the terminus at Circular Quay shows the line first submitted. There is a loop shown in red opposite Goldsborough, Mort, & Co's. There is a large space there, and I thought that terminus would do very well. There is considerable space there for drays.

4. What is the wharf opposite to the loop? The Manly wharf.

5. Why did you decide to make the terminus where you have made it? Because there is a wide space there.

6. What was the reason for extending the terminus? Because it was thought that the loop marked in red would interfere with the wool drays.

7. The present proposal also brings the line closer to the mail steamers? Yes; and there is this to be said about the wool stores in Macquarie-street, and Circular Quay, that unloading takes place along Macquarie-street, so that there is not likely to be the same interference between the tramway and the wool traffic as there would otherwise be.

8. What is the elevation of Macquarie-street above the loop at the terminus? About 35 feet; but that is not an important point. The extra cost, due to the alterations the Commissioners have asked to be carried out, is £7,500, which will have to be added to the cost previously given. I hand in a list of the minimum width of different streets.

George-street and Harris-street Electric Tramway.

Minimum width of streets traversed, between kerbs:—

Circular Quay	120 feet.
Queen's Wharf Road	100 „
George-street between Queen's Wharf Road to Bridge-street	33 „
„ „ Bridge-street to King-street	43 „
„ „ King-street to Park-street	45 „
„ „ Park-street to Bathurst-street	75 „
„ „ Bathurst-street to Goulburn-street	60 „
„ „ Goulburn-street to Campbell-street	51 „
„ „ Campbell-street to Harris-street	75 „
Harris-street	48 „

I have to hand in a Book of Reference and the report of the Railway Commissioners, dated 6th December, 1895.

9. At that time the total estimated cost of construction was £123,000? Yes.

10. Did your Department prepare the estimates? I prepared them in conjunction with the Railway Commissioners and Mr. Elwell.

H. Deane, Esq. 18 Mar., 1896.

11. Since when a sum of money requires to be added? Yes, £7,500.
12. Therefore the total amount is £130,500? Yes.
13. That will make some slight difference in the interest at 3¼ per cent? Yes.
14. Your Book of Reference shows simply Crown land and Corporation land? Yes; we run along the street the whole way.
15. In 1891 the Public Works Committee was of opinion that a cable tramway was a wiser work to carry out than an electric tramway? Yes; that was in the case of the Ocean Street and King Street line.
16. Are you of opinion that electrical knowledge has increased so materially in five years that you are strongly justified in constructing this work? I may say that I recommended electricity at the time of the laying down of the cable tramway, and I have no reason to conclude that I was wrong then. But the reasons are all the greater now as electrical science has made such advances.
17. How do you propose to furnish the power necessary to work the line? By generators placed at the power-house at Rushcutter's Bay, the power to be transmitted from there by a cable.
18. What is the power you have at present at Rushcutter's Bay? I suppose the engines there will work up to nearly 1,000 horse-power. We are using at the maximum about 400 horse-power.
19. What surplus do you consider it reasonable to provide for on a cable? The surplus of power which was provided at Rushcutter's Bay was intended for a branch line to Hargrave-street and for an extension to Rose Bay. It was not intended for the George-street line, and therefore it is proposed to reserve that power for local use.
20. You are going to generate the extra power required at Rushcutter's Bay? Yes; there will be room in the power-house at Rushcutter's Bay to supply it.
21. There is available some 400 or 500 horse-power after providing for the motive power necessary for the cable line at Rushcutter's Bay? Yes; but that may be required for other purposes and should not be used in this instance.
22. Why do you not propose to utilise that power for the George-street tramway? Because it may be required for other purposes. For instance, there is a proposition now to run an electric line on to Rose Bay. It would be necessary to provide 100 horse-power for that.
23. It appears then there is likely to be an extension to Rose Bay and other places, for which the Rushcutter's Bay power might better be utilised? Yes, exactly.*
24. What horse-power is required to work the electric tramway in George-street? About 300 horse-power would generally suffice.
25. Therefore it would be ample to work George-street if it were wise to use it? Yes.
26. Have you taken into consideration the effect of the electric current on the telegraph lines at present in George-street? Yes. It will not make any difference to them.
27. It will have no effect upon them? No. A great deal of damage which has been done in America and elsewhere by what is called electrolysis is largely due to defective bonding of the rails. These rails, of course, will be very carefully bonded, and this will remove the risk of damage. Then as regards telephones, the modern system of telephones is to have close circuits, so that it cannot affect them.
28. Are you aware that the erection of the only electric tramway we have in the Colony—at North Sydney—so affected the Manly circuit that they could not work it? I do not think that those rails are very well bonded, inasmuch as the line was originally laid down for steam motors. By bonding, I mean making a perfect contact for the current of electricity to pass along between the rails at the joints. There is only just loose contact in an ordinary road, but where you make electrical contact you have to ensure the close connection of the metals in some way or other. There are several ways of doing it, some more or less effective. The rails need not absolutely touch; but you can connect them by means of an intermediate material like a bar of copper, or by another kind of metal altogether, such as has lately been proposed. If they are not thus bonded, the current escapes, and there is a loss of force. It escapes into any pipes, or into any substance that will carry it.
29. *Mr. Black.*] Does it remain in the atmosphere until it finds a congenial resting place? No; it goes into the earth. It would escape into the damp earth, and then, there being pipes laid in the damp earth, it would by preference go along those pipes; but there is no harm done in going along the pipes; it is where it leaves them again, to get to the negative pole of the generator, that the mischief occurs. The current, in leaving the pipes, and going across to the negative pole of the generator, takes with it particles of metal.
30. *Chairman.*] You adopt the overhead wire system known as the Thomson-Houston system? Yes.
31. You have considered the accumulator system and the conduit system? Yes; and I have come to the conclusion that the overhead wire is perfectly safe; and that it is the most economical and satisfactory.
32. Is that the experience of the world? Yes.
33. It is spreading very rapidly, whereas the others are not? That is so. In England they are very particular, and the Board of Trade there has very stringent regulations; but, in spite of that, there exists a number of proposals for new lines. Recently, a line has been laid down in Bristol, on the overhead system,—and in Dublin also, when I was in England, there were three in existence.
34. You are aware that an accumulator was tried from the terminus at Bent-street to the railway system? Yes.
35. Are you prepared to give any information with regard to it? I think you had better get the information from the Railway Commissioners. I mention in my report that that system has not been a success anywhere.
36. It is an impracticable system? Yes, at present. It has been worked in some places; in Paris for instance. I also saw it working in Birmingham, but I know they are losing money over it.
37. What are the main objections to the accumulator system? The cost and maintenance of the cells.
38. Has the weight anything to do with it? The weight of course is heavy compared with the power you can get out of them. The extra weight is considerable, and the system is not successful, because of the cost of maintaining the cells and the impossibility of getting power to work steep grades.
39. Is it a system liable to break down? No, I do not think so.
40. Would there be any objection to electric cars and steam motors travelling on the same line? No.

41.

* Note (*on revision*):—All the surplus power will sooner or later be required for the Ocean-street line and extensions, and should not be touched for any other purpose.

41. Would it be possible to run electric cars on the present lines to the Railway Station? Yes; but the rails would have to be bonded and an overhead wire would have to be laid. H. Deane, Esq.
42. Would it cost much to bond the rails? Not very much, from £100 to £150 per mile. 18 Mar., 1896.
43. What would the wiring cost? The poles and wiring for this particular line I put down at about £1,000 per mile for a single line.
44. What would be the cost of laying the cable to bring the power from the generating station? The cost for the whole, arrived at in consultation with Mr. Elwell, was £8,300, or £2,600 per mile, that is for what is called the feeder and return.

THURSDAY, 19 *MARCH*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

45. *Chairman.*] Have you any further information to place before the Committee? I produce a detailed estimate of the cost of the George and Harris-streets tramway. It is as follows:— H. Deane, Esq. 19 Mar., 1896.

George-street.	
Roadway, 294 chains at £99	£29,106
Crossover, Circular Quay	200
Crossing cable	600
Junction, George-street West	900
Alterations to mains	5,200
,, wood-blocking	600
Harris-street.	
Roadway, 210 chains at £83	17,430
Crossover at terminus	100
Junction, George-street West	900
Alterations to mains	1,400
,, wood-blocking	300
	£56,736
Engineering and contingencies, 10 per cent.	5,673
Total	£62,409
(Say) £62,500.	

46. Does that embrace all expenditure in connection with the breaking up of the road and placing it in the position in which it is at present? Yes. The figures for car-houses are:—

George-street.—Car-house, proportional amount	£7,000
Harris-street.—Car-house, proportional amount	1,000
	£8,000
Engineering and contingencies, 15 per cent.	1,200
(Say) £9,500.	£9,200

47. Why do you charge 15 per cent. for contingencies instead of the usual 10 per cent.? There is a little doubt about the possible cost of the car-house. There is the cost of the land to be considered. It will be very easy for the estimate to be increased by what we may have to pay for land to the extent of about £400, which would really be the extra 5 per cent. I have some further figures with respect to outside electric work, &c., which are as follow:—

Outside Electric Work.

George-street.	
Signals	£300
Line telephone	200
Bonding	640
Poles	1,600
Wiring overhead	400
Main feeder and return	6,300
Harris-street.	
Signals	150
Line telephone	100
Bonding	440
Poles, &c.	900
Wiring overhead	300
Feeder across Darling Harbour	1,500
	£12,830
Engineering and contingencies, 15 per cent.	1,924
(Say) £14,750.	£14,754

George-street.—

H. Deane, Esq.

19 Mar., 1896.

George-street.—Power plant proportion		£9,150
Harris-street.—Power plant proportion		2,000
		£11,150
Engineering and contingencies, 15 per cent.		1,673
(Say) £12,800.		£12,823
George-street.—Thirty-five motor cars, at £500		£17,500
Harris-street.—Five motor cars, at £500		2,500
		£20,000
Engineering and contingencies		3,200
		£23,200

Summary.

Road construction	£62,500	
Car-house	9,500	
		72,000
Outside electric work	.....	14,750
Power plant	12,800	
Rolling stock	23,200	
		36,000
(Say) £123,000.		£122,750

COST OF ADDITIONAL WORKS PROPOSED BY THE RAILWAY COMMISSIONERS AT THE CIRCULAR QUAY AND OPPOSITE TO THE RAILWAY STATION.

	£	s.	d.
Additional permanent way at Circular Quay, 6 chains, £200	1,200	0	0
,, ,, Railway Station, 11 chains, £200	2,200	0	0
Junctions, 2 at £900	1,800	0	0
Crossover, 1 at £300	300	0	0
Signals, &c., lump sum	700	0	0
Bonding, 17 chains, at £4 10s.	76	10	0
Poles, 12 at £20	240	0	0
Wiring overhead, 17 chains, at £3	51	0	0
	£6,567	10	0
Engineering and contingencies, 15 per cent.	984	10	0
(Say) £7,500.	£7,552	0	0

48. *Mr. Wright.*] You visited Europe and America a short time ago? Yes.
49. Have you seen many tramway systems in operation? A great many.
50. What electric systems have you seen? Most of them were the overhead wire system; the conduit system at Washington; the conduit system at Budapesth, and the overhead electric railway at Liverpool.
51. I presume you gave them close attention? Yes.
52. And you are of opinion the overhead system which you recommend is the best? It is undoubtedly the most successful.
53. Have you made electricity a study? I have studied it as far as my time will permit. I do not pretend to be an expert electrician. It is a speciality which no professional man would be able to take up unless he devoted the whole of his time to it.
54. Do you know anything about Mr. Elwell's past services—before coming to the Colony? He used to be a member of the firm of Elwell, Parker, & Co., now the Electrical Construction Company.
55. You are firm in the belief that an electric tramway in Sydney would be a success both commercially and otherwise? Yes.
56. There is no fear of failure? None whatever.
57. We are not asked to spend £130,000 in an experiment? No; it is not an experiment.
58. What kind of roadway do you propose to lay? The roadway will consist of grooved rails of 83 lb. to the yard, resting on the concrete base which carries the wood-blocking. Below the rails in George-street it is proposed to deepen down and give 10 inches of concrete; but I propose to leave Harris-street undisturbed.
59. Will there be any sleepers? No.
60. Will there be anything between the concrete and the rails to act as a buffer? No; it is not necessary. It is the style which is used now. I saw it used in Birmingham. It is also used here on the George's River Road, at Newtown, and in Oxford-street for the steam trams. It is not so suitable for steam tramways, but it is for the lighter electrical motor cars. The rail is a strong one, and it is strongly bound at the joints.
61. How do you fasten the rail? There is, as shown on the plan, a plate under the joints. The rails have fish-plates with six bolts.
62. Are they the ordinary fish-plates? Something like them, only deeper, because the web of the rail is deeper.
63. Will there be any struts or ties? Yes; the plan shows the ties. It is not necessary for them to do more than keep the gauge. The tendency is always for the gauge to widen. The wood blocks are fitted into the rails.
64. You are guided by practice in other places with regard to a roadway? Yes. We have the same class of roadway here now, but, of course, it is subjected to worse conditions under the steam motors. This is altogether a better road. The new rail will be different in shape from the present rail; it is better supported on the web, and the groove is of a better shape. Altogether, I am sure it will be very satisfactory.
65. In laying the road you will have to take up the wood-blocking, but not the concrete? Along George-street it will be necessary to cut through the present concrete to give a greater depth—just along the line of the rails. Some of the concrete may be pretty sound, but other portions certainly are not.
66. I suppose you will have to cut through a great many gas and other services? I think it is very likely. The estimate in regard to the alterations to mains is very uncertain. It may only cost one-half of the estimate of £5,200. The estimate is based on the cost of the alteration of mains on the Ocean-street tramway.

H. Deane, Esq.

19 Mar., 1886.

67. Have you taken into consideration the cost of the piece of land which will be required for the car-house? Yes.
68. Is that included in the estimate? Yes.
69. What sized piece of land will you require to stable all the cars? Something like 250 ft. x 140 ft. will do.
70. I am afraid you have not allowed sufficient margin for the cost of the ground and the erection of the buildings? Of course the building would be a very inexpensive one.
71. How many cars do you estimate to have suitable accommodation for? The total number of cars provided for is forty, but it would be desirable to provide for eighty or a hundred. Supposing at any future time it were necessary to accommodate more cars it could be done, as is done in America, by erecting several floors and running them up in lifts.
72. With regard to the main feeder and return—what does the return mean? That is the return current; it is like a double copper cable, insulated. The main feeder in this particular case is placed alongside the other, only it will be insulated.
73. Can you give us some idea as to the route it would come? It would come down one of the parallel streets, I should think—possibly Liverpool-street.
74. There is no danger, then, of injury to the water-mains, the gas-mains, and the telephone lines? No.
75. Have you consulted Mr. Walker, the chief of the Electric Telegraph Department, about the possibility of an electric tramway going along George-street? No.
76. Will it have any effect on the working of the instruments in the operating-room? Not the slightest, if an efficient bond is provided. If the rails are properly bonded for the return circuit, so that the current can get back properly to where it started, there is no danger whatever.
77. You are quite satisfied you have made sufficient allowance in your estimate for contingencies? Yes.
78. There is no danger of the estimate being largely exceeded in any one item? No. You will quite understand that with regard to the electrical details, I have been guided very much by Mr. Elwell.
79. You cannot say then, of your own knowledge, as an electrician, you have made ample provision for all the work in connection with the line? I would rather leave the electrical details to Mr. Elwell.
80. What sized engines do you propose to work? We propose to provide three engines of 300 horse-power each, one to work the usual traffic, one to work holiday traffic, and one in reserve. It will be necessary probably to provide an additional boiler to those at Rushcutter's Bay.
81. How many dynamos will the engines drive? There will be one dynamo for each—direct acting.
82. And the cost you say will be £12,823 for three engines, one boiler, and three dynamos, and all the necessary gear in connection with them? Yes.
83. That is an estimate upon which you can speak with some degree of certainty? Yes.
84. There is an item of £17,500 for thirty-five motor cars for George-street, and of £2,500 for five motor cars for Harris-street. That estimate, I suppose, was supplied to you? That is entirely Mr. Elwell's estimate.
85. To sum the matter up, you undertake the responsibility of the estimate in regard to the roadway and machinery, but in regard to the electrical plant and appliances, and motive-power, you simply put down the figures supplied by Mr. Elwell? I am satisfied of everything, except the main feeder and the motor cars. I have no doubt Mr. Elwell will be able to satisfy you with regard to them.
86. With regard to the proposed extension of the tramway from the originally proposed site in front of Mort's store to a distance further along the Quay, would it not be a good thing to run it as far as Hill, Clark's store, opposite the Orient and P. & O. boats? I am half inclined to think it would.
87. Beyond Hill, Clark's store, there is a lot of ground which would make a good terminus;—do you think instead of stopping where it is proposed to stop, it would be better to extend the tramway further on in order to take in the traffic of the Orient and P. & O. Companies? I would recommend that the terminus he made where it is at present proposed to be made.
88. Would it not be better to extend it around the Quay? If I were doing that I think I should try to run it as far as the Botanical Gardens, and give the people who visit the gardens the benefit of it.
89. *Mr. Black.*] What is your reason for preferring the overhead electric system to the cable system? If you have a copy of my report, I could point to where that matter was dealt with. In the first place, it is very much cheaper in the way of construction, and there are other advantages in favour of the electric system. In my report I say:—

> In America it is considered that electric lines are much safer to work than the cable, the cars are more completely under control, they can stop at any moment, can reverse or go on again at any point on the road. This is not the case with the cable. This is a very great advantage in crowded streets when collisions are likely to occur. If a cable car has to stop longer than its usual time at a street corner it cannot make up time; the speed is limited by that of the cable; with electric it is otherwise; the road being clear, high speed can be obtained, and time lost regained. The speed at command is a most important advantage. In New York, on the Broadway cable line, I frequently noticed at the city end the cars running slow, letting the cable, in fact, slip through the grip so as to avoid running into vehicles in front. In this way a great loss of power and great wear to the cable result. In electric cars this, of course, would not occur, as only the power required is taken from the conductor.

90. Your principal objection is that the cable system is more expensive, and the second objection is that the speed of the cable cars is regulated by the speed at which the cable can be worked? Yes; and the electric cars are more under control.
91. How do you arrive at your estimate of the cost of the maintenance of this system? That is the Railway Commissioners' estimate.
92. I suppose it is only by a comparison with the cost of maintenance of lines running in other countries? You will find in my report the cost of maintenance given in several cases.
93. But I want to know if you think you can arrive at an accurate estimate when, with the exception of the line at North Shore, and the experimental line between Randwick and Waverley, you have had no lines of that character constructed in the country? There should be no difficulty in making an estimate, having regard to different circumstances in Sydney.
94. You think that, despite the fact that you have had little or no local experience, despite the fact that in most cases the cost of the material here will vary considerably from its cost in Germany and America, you can furnish a fairly accurate estimate of the cost of maintenance? Yes; it can be done.
95. Mr. Wright has asked you certain questions with reference to carrying the tramway nearer to Fort Macquarie, with the view of serving those who visit the P. and O. and other steamers;—do you not think that it

H. Deane, Esq. 19 Mar., 1896.

it would be even more advisable to extend the tramway along the other side of the Quay, with a view to picking up the large passenger traffic which comes from the direction of Miller's and Dawes' Points? I think that had better be treated as a separate question afterwards. I fully believe this is the best course for the tramway. It would meet the general convenience of the public better than any other route, but it is very possible that it may be worth while to consider a branch down to Miller's Point afterwards.

96. You think at present it would be inadvisable to carry it down in that direction? I look upon that as a separate question altogether.

97. I look upon the proposed tramway system as a feeder to the ferry boats, and for the convenience of the people who live in the older part of Sydney—the Miller's Point end? What you really want to serve is the people travelling to and from Circular Quay along George-street to the Railway Station. That traffic will be of a regular nature. With regard to the traffic down to Miller's Point, although it may possibly be a continuous stream, the passengers will be more of a casual or incidental character.

98. If you prefer the overhead system for the reasons given, why do you prefer the overhead system to the underground system of conveying power? Because it is cheaper, and you have everything under better control.

99. Do you mean that it is more easily got at? That is what I mean. If you had the conduit system through the Haymarket, you might sometimes get the conduit flooded, and get a great loss of current, if not an actual sticking up of the cars.

100. Could not that be overcome by carrying the cable there through a water-proof tunnel? No. Usually the conductor has to be exposed, because the underground trolly or shoe takes it directly off the exposed cable. There are other systems, but they have not been sufficiently tried yet to be worth recommendation.

101. Then the initial cost of the overhead system is less than that of the conduit system, and the maintenance, because of its greater accessibility, is less? Yes.

102. I suppose, if you run double lines, you will have the double bracket posts with two arms? Yes.

103. I see it is proposed to protect these posts from traffic by what they call a wheel-guard, below the curbing? Yes.

104. I will admit that the wheel-guard would protect your poles from the ordinary horse traffic, which is under control, but you know as well as I do that such a curbing would be no protection from runaways? I should put up a stone or iron pillar at each end. The cross section on the permanent-way plan shows the base of the pole.

105. What area does the curb occupy around each post? A width of 3 feet.

106. I suppose it is something after the fashion of the refuges you see in the middle of roadways? Yes; but I do not think it can be used very well as a refuge.

107. What would the width of the base be? Three feet; and its length would be 5 or 6 feet.

108. Do you think that that would be a sufficient protection from runaways? Yes.

109. I suppose, however, if it does not prove a protection—and in some cases it might not—there would be some danger to human life from contact with the wires if a circuit were made? There would be no circuit made—the wire is insulated from the poles.

110. Has there been any recent discovery which has obviated the frequent loss of human life, which used to occur in the American streets where the overhead system was in use, from the accidental bringing of electrical wires to the roadway? No, there is no new discovery, except practical common sense. The reason those accidents used to occur was from the careless way in which telegraph lines were run across the streets, overhead, in all directions. In many of the American cities any company, and almost anybody, had the right to run a wire from house to house, and the consequence was that the sky in those cities looked more like a cobweb than anything else. When one of those came down on the wire or conductor, it would very likely drag it to the ground or break it, and then there would be an accident, but that need not occur anywhere in Sydney. The telegraph lines are not run about in that style, and in any place where telegraph or telephone lines cross the electric wire, if there is any chance at all of breaking down, guard wires can be placed. That is the practice now in America, and I believe for a good many years past there have been practically no accidents of that kind.

111. You do not think there is likely to be any immediate discovery in electrical traction which would in any way supersede your proposed scheme, or render it impossible for you to use it with improved appliances, that is if improved appliances were discovered? If improved appliances were discovered, of course, even the money spent on this tramway would not be thrown away.

112. Do you think it possible you could adopt the improved appliances for your proposed plant? Yes.

113. On the double bracket system, how many wires would be used to convey the electricity from one post to the other? One wire for each track.

114. Will a span wire be used? No; those are to obviate the necessity of span wires. In the narrow part of the streets, span wires would have to be used, because you could not put posts in the middle.

115. Will the wires be at the extremity of each bracket or in the centre? At the extremity.

116. What height do you propose to have the brackets? Nineteen or 20 feet.

117. Do you think that high enough to be perfectly safe from some of the very high loads which occasionally pass through the streets? Yes.

118. Do you not think that some of the wool loads which go down George-street are higher than that? No; I think you will find the maximum is about 16 feet.

119. When you speak of 19 or 20 feet, do you mean the height of the post or the height of the bracket? The height of the bracket; the post is higher.

120. You think 19 or 20 feet is high enough for the purpose of safety? Yes.

121. What distance do you propose to have the poles apart? 120 feet.

122. Is it not usual in some countries to have them as far as 60 yards apart? I have known them 140 or 150 feet apart, but 120 feet is the recognised distance. Telegraph poles run about 200 feet apart.

123. I suppose you propose to use the tubular iron posts? I think so.

124. Is it proposed to supplement the electrical power in connection with this system by the use of accumulators? No; that will not be necessary in this case.

125. But I suppose if you found, after experience, that sufficient power was not generated to carry on the traffic with speed by means of the wires, it would be possible to supplement it by the use of accumulators, or would you recommend an increase of the power-house? I do not think, as it is at present proposed

to

H. Deane, Esq.
19 Mar., 1896.

to have the power, there will be any advantage in having accumulators. There are distinct advantages in some cases where you have to run your power for a distance and there is a drop of the voltage towards the end of the line.
126. Where lines of considerable length are constructed, the loss of voltage, I suppose, becomes a serious matter? Yes.
127. Is it possible to run a double line of cars by the overhead electric system a distance of 5 miles by means of power supplied from a central engine-house without feeders? It would not be the practice to do so.
128. You think that over a great distance like that, the loss of voltage would be so great that the use of supplementary feeders would be necessary? Not only that, but over a long line you would have to convey a great deal of power, which would mean a very heavy copper conductor carried along the line. It would be more economical on that account alone to carry a feeder separately, and feed along the line every couple of miles or nearer.
129. The medium to carry power from the central engine-house over such a distance would require to be so heavy that it would be cheaper to use a lighter medium and have feeders? Yes.
130. In the double-line electric system, is there any danger involved by the cars running off the line? No.
131. Supposing a car ran off the line when it was meeting a car coming the opposite way, and there was a collision, would there be any danger, under those circumstances, beyond that of an ordinary collision? No.
132. There would be no danger by the meeting of currents? No.
133. Have you known of such cases? No; it has never occurred, and it could not occur.
134. Why not? Because the car is not charged with electricity. Besides that, both the wires are charged with a positive current, so that there would be no tendency for any electricity to pass from one to the other.
135. Is any special knowledge required by the men in control of the cars? They soon learn it. The knowledge required to run a car is very simple.
136. Have you any idea as to the system of instruction in other places? Supposing in Sydney there was absolutely no one who could do it, you would have to bring in two or three men to teach the others. It would very soon be done. The expert men would travel on the cars, and the others would be there to watch their movements.
137. The electric system is, of course, infinitely lighter on the roadway than the present steam traction? Yes.
138. Do you think it is lighter than a cable car? No; the electric motor cars are a little heavier—they will be about a ton heavier.
139. That involves more wear and tear of the roadway? That is nothing—the car would still be a light one. There is no working of cranks. It is a smooth rotary motion—that of the electric motor—without any jerk of any kind.
140. Do they use brakes on the electric cars? Probably the samebrake—Gennett's brake—as is used on the cable tramway would be adopted. It is an air-brake.
141. *Mr. Trickett.*] Is any inconvenience likely to arise in regard to fire escapes when a fire breaks out? I do not think there would be any trouble on that account. What trouble there might be would certainly be got rid of by the central pole system of carrying wires.
142. When we were inquiring into the Williams-street tramway that was pointed out in Sir John Fowler's report to be the principal objection. He referred to the obstruction to fire-escapes and other high vehicles. In your opinion, is not that an important objection? I do not think any importance is to be attached to it.
143. In the American cities, as far as your observation went, did any inconvenience occur in that respect? I never heard any of the tramways objected to on that account.
144. I suppose, in case of a large fire happening, the wires could be cut for the time being? You could switch off the current and cut the wires.
145. The traffic in the street would necessarily be suspended? It would be impossible to work past a fire.
146. You propose to bring all your power from the Rushcutter's Bay engine-house to the central point somewhere in George-street;—is there not a danger that it may become injured at some time, and the whole of the motive power be cut off? No; it would be carried in what is called an armoured cable—a cable wound round with steel wire, and buried in the ground. It would be very strong, and capable of resisting abrasion.
147. I take it that this proposal is to cost £123,000 plus £7,500; taking from that the sum of £23,000 for rolling-stock, it leaves in round numbers about £108,000 as the cost of construction? Yes.
148. That would be for 3 miles and 12 chains of double line, or for 6¼ miles of single line? Yes.
149. That brings the cost of construction to about £18,000 a mile? That includes the engines and the car-house. It means that the road construction, pure and simple, is £62,500 for 6¼ miles of line, or £10,000 a mile. That is not out of the way when you have to carry the line along a paved road. It is not like a country line; it is not even like a tramway laid down on a suburban road.
150. It seems to me so much heavier than many of the lines constructed in America? Of course, if you have a ballasted and cross-sleepered road, you could make it very much cheaper than that. The usual cost of a tramway made with ballast and sleepers, and a blue-metalled top, is £3,500 to £4,000 a mile.
151. In a report in an American journal the cost of the road-bed is put down at £1,500 per mile;—would that be a wood-block road? No; if it is a road at all it is one upon which no one would like to drive a buggy.
152. A memorandum has been submitted to the Committee by the Railway Commissioners regarding electric traction; it is dated November, 1895, and says "the cost in New York is about £10,000 per mile of single track"? That would be in regard to a paved road somewhat similar to what we have here.
153. In this report there is a paragraph which refers to the great saving which is now being made in engine houses by the use of what they call centrifugal fans? I know that system.
154. Is it a successful one? Yes; it is reported to be quite successful. It is to obviate the necessity of building high chimney stacks.
155. Could not a great saving have been effected in that respect at Rushcutter's Bay? In that respect it could.*
156.

*NOTE (*on revision*):—The saving at Rushcutters' Bay would have been about £400. Against that advantage would have to be set the higher annual maintenance and the cost of working.

H. Deane, Esq. 19 Mar., 1896.

156. Is this a very recent invention? It has only come into use during the last two years.
157. The reason I ask you these questions with regard to the cost of the tramway is because of a paragraph which I see in Mr. Elwell's evidence on the William-street line. On page 221 of this evidence he states, "It is estimated by a tramway engineer that the whole of the existing lines in Sydney can be converted into electric lines at a cost of £360,000." If that can be done, £131,000 seems to be a rather excessive sum to spend on a little over 3 miles of line? But this is a new line. I do not know what justification he has for saying it can be done for that amount. I should be sorry to say it is not very much underestimated, but there is this difference—all you would have to do to convert the present lines would be to bond the rails, and to provide the power and use the existing lines.
158. I understand you to say the road-bed is to cost £10,000 per mile? Yes; in the wood-blocked streets.
159. What will be the cost of the road construction from Circular Quay to Redfern? £40,300, which includes the alterations to junctions and mains. The cost of the construction in Harris-street will be £22,200, the former being 294 chains, and the latter 210 chains, a difference of about 1 mile. With regard to Harris-street, although there is a bit of the road which is only macadamised, I have provided for wood-blocking right to the end. I do not think that the wood-blocking will be more than 200 chains.
160. In the estimate of the Harris-street portion, you have allowed for about 200 yards of wood-blocking which is not now provided for? Yes.
161. Do the estimates for the two car-houses include the cost of land which would be required for their erection? It is intended to include the cost of land.
162. What will the car-house itself cost? £3,000 or £4,000.
163. It would have to be a pretty large building for the George-street line? Yes.
164. If you propose bringing a lot of the western suburbs traffic along George-street, your car-house site ought to be such that a larger house can be built if necessary? Yes; although if you were cramped for room you could have extra storeys, and run the cars up by lifts, as is frequently done in America.

FRIDAY, 20 *MARCH*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq. 20 Mar., 1896.

165. *Chairman.*] Have you prepared a statement separating the cost of the George-street tramway from the cost of the Harris-street tramway? Yes. It is as follows:—

George-street Tramway.

Road construction	£40,300	
Car-house, proportional amount	8,300	
		48,600
Outside electric work	£10,855	
		10,855
Power plant, proportional amount	£10,500	
Thirty-five motor-cars	20,300	
		30,800
		£90,255
(Say)		£90,440
Additions, proportional amount		5,625
		£96,065

Harris-street Tramway.

Road construction	£22,200	
Car-house, proportional amount	1,200	
		23,400
Outside electric work		3,895
Power plant, proportional amount	£2,300	
Five motor-cars	2,900	
		5,200
		£32,495
(Say)		£32,560
Additions, proportional amount		1,875
		£34,435

166. *Mr. Trickett.*] Have you separated the cost of the cars for the Harris-street tramway from the cost of the cars of the George-street tramway? Yes; the engineering and contingencies are all included.
167. You provide for this armoured cable from Rushcutter's Bay to George-street;—would that have to be continued to Harris-street for the purpose of sending on the Harris-street cars? Yes.
168. And an underground cable? Yes.
169. Have you included that in this estimate? Yes.

170.

H. Deane, Esq.
20 Mar., 1896.

170. Does not your estimate of the cost of these two tramways seem somewhat disproportionate, when one looks at the length of the two lines? Yes.
171. Will you explain why the George-street line is estimated to be so much more expensive than the other? In the first place the road construction is somewhat more expensive. I have taken the road construction at £99 per chain for the George-street line, and at only £82 per chain for the Harris-street line. Then, of course, the proportion for the car-house, for the power plant, and for the motor-cars is far higher on the George-street line, because more work is to be done. We have to provide power for a larger number of motor-cars. The service on the George-street line is proposed to be a minute service, and on the Harris-street line only a five minutes service. So that really for the same length you would want five times the power and the accommodation.
172. As regards the extra expense of road construction, why should it be so much more expensive on one line than on the other? Because in George-street there is very much heavier road traffic, and it is very desirable that we should have a secure foundation. The concrete in George-street is not so satisfactory as the concrete in Harris-street, which is the later job. Another thing is that in checking the cross-levels I found that the cross-sections of Harris-street might be much more readily adopted than is the case in George-street in many places. In George-street we want a more substantial foundation than in Harris-street. The risk that is run is the risk to the electrical road; it is not to the ordinary traffic.
173. You have been on the Continent and in America lately? Yes.
174. Do you think it is preferable in every way to have an overhead conductor to an underground one? Yes.
175. Has that been the experience of other countries? Yes.
176. Will you state briefly the objections to the underground conduit system? The chief objection to the underground conduit is the expense and some little difficulty in keeping it clear of water in the low portions of the road where the street might be liable to flooding, and the general difficulty of keeping up the insulation, which is greater than it is with the overhead system.
177. Is there danger also of the underground wire being affected climatically? No; you could have a closed conduit.
178. The memorandum which has been placed before the Committee speaks of a perfect motor being now obtainable for the overhead system;—are you aware of any particular motor which is specially adapted for working the system? Yes. The motor that will probably be adopted will, I think, be the latest type of motor—the same as I saw working in America. The General Electric Company, which is a combination of the Thomson-Houston, Sprague, and Edison Companies, make a motor which they call the G.E. 800. It is the best type of motor that they make up to the present time. Then the Westinghouse Company have also a new motor, which is a very satisfactory one. It is a little bit heavier though than the General Electric Company's motor.
179. Which of these motors would you suggest for use here? I do not think it matters very much. I perhaps like the G.E. 800 motor.
180. Does that mean 800-horse power? No; I think it is the manufacturers' number. They are nominally 25-horse power motors.
181. And the cost of these two motors would be about the same? Yes.
182. During your trip abroad, did you make any inquiries as to the accumulator system? Yes.
183. Has it been perfected at all since this question was last considered here? It is not satisfactory.
184. Will you now tell us the result of your inquiries as to the accumulator system? In my report on electric and other tramways, at page 3, I say:—

> I will first take the accumulator or storage battery system.
>
> In America this system has made no way. Either the interests in favour of other methods are too powerful or the system itself is essentially weak, otherwise it might be thought that in that country, at least, where new inventions are received with open arms, its introduction would have been welcomed.
>
> The storage battery system has, of course, many advantages, each car taking its own power with it, and is, therefore, independent of the power-house and the other cars. A break-down does not mean even a temporary stoppage of the whole system, but there are serious drawbacks to contend with. In the first place the cars are very heavy, as they are weighted up with the batteries, so that wear and maintenance of road become thereby affected; also, for the same reason, more power is required as the load to be moved is so much greater. Then the charging of the cells takes equally long to effect, or nearly so, as the discharging during running, so that a double number of cells has to be kept in hand. Then, again, there is a low limit to the power of any of the cells hitherto invented, so that steep gradients cannot be surmounted at all, for more cells implies more weight to haul, and therefore no corresponding gain. The steeper grades, such as are negotiated by steam, are not suitable to the storage battery system, for it is found that when the cells are drawn upon at more than a certain rate they rapidly disintegrate.
>
> The result of all this is that the system is not suitable for grades heavier than 1 in 25, or perhaps 1 in 20, and does not pay a fair return upon capital.
>
> I examined the working of the system in Birmingham and Paris. These are now acknowledged to be the most successful lines. They are very well managed, and afford a considerable amount of comfort to the travelling public, but the shareholders get no benefit. I obtained returns of the working of the Birmingham cars which run along the Bristol Road. The company were so dissatisfied with the results that they recently made an application to the city authorities to allow the overhead wire to be used, in the same way as on the South Staffordshire Tramway, but their request was not acceded to.
>
> Great results were expected from the use of the protected chloride cells, and it may be that the life of the cells will be indefinitely extended, but there will still be the drawback of deficiency of power for working steep grades, until some more powerful method of constructing the plates and perhaps some other material more suitable than lead is discovered.

Then I give some particulars of the Bristol Road line of Birmingham, and of the Paris lines, and further on I say:—

> In Birmingham the cost of running and repairs, as given by Mr. Alfred Dickenson, is nearly 1s. per car mile, being nearly twice the cost of steam traction, and nearly three times that of the cable.

185. According to your report the accumulator system is not sufficiently advanced for you to recommend its adoption here? No.
186. Is it receiving full attention, do you think, at the present time? I think there are people working at it constantly. When I was in Manchester I went to the works of the Chloride Company, and I know that they are doing what they can. Mather and Platt, of Manchester, are chiefly interested in these works. I know that others connected with that patent, and with other patents, are working for the purpose of getting a more durable and powerful plate.
187. I suppose you acknowledge that if a perfect accumulator could be devised it would be preferable in every way to this overhead system? I think there would be many advantages in the accumulator system, especially

H. Deane, Esq. 20 Mar., 1896.

especially for outlying traffic, and, if not, I doubt very much whether even with a good kind of improved battery it could be run more cheaply than the overhead system, but there would of course be advantages connected with it.

188. I suppose that if the conduit were matured there would not be very much difficulty in applying that to the motor-cars that would be used?* No. Even supposing it were found afterwards that the conduit system were suitable, there would be nothing lost here except the overhead wire. The conduit system in New York, I may state, costs a great deal more per mile than did the cable line in Sydney, because there is a great deal more material in the conduit system than we had in our cable line.

189. Did you go into the question of the best generating system which could be adopted? I did examine the different styles of generators. I mentioned in my report what I had seen. The improved method of driving is by direct action. It is the practice now to place the generators on the shaft of the engine, and drive them direct instead of by belting or ropes.

190. You have stated, I think, that in many of the cities in America and Europe the streets are quite as narrow as George-street, Sydney, and that in those streets electric trams with a double line are laid and worked, without causing great inconvenience? Yes.

191. Did you notice if the traffic was as great there as the traffic we have in George-street? Yes; I have only made comparisons between those places where the traffic is as great as it is here.

192. You know that every kind of traffic goes along George-street—waggons, cabs, omnibuses, and light and heavy traffic of all kinds? Yes.

193. In many cities in America, and on the continent, this traffic is regulated, and only a portion of it is allowed to go along certain thoroughfares? Yes.

194. Do you think that is done in order to prevent the crowding of the streets? I daresay a good deal of that is done, but in New York the great crowding of the streets was due to the heavier traffic—in the city end of Broadway, I mean. In New York there are no cabs. Everybody travels either by the overhead line or by the tramways, but there is a good deal of heavy traffic at the city end. I think as it has always to be concentrated on Broadway—which is the only good street—they go by preference along there. There is no regulation to stop them.

195. And no outcry is raised against them on account of their causing public inconvenience? I did not hear of any. I think it is taken as a matter of course.

196. Is the traffic of these streets quite as great as, or greater, than the traffic in George-street? Yes.

197. Do you think its progress is blocked in a great measure by the existence of vested interests in the way of the overhead wire system? I think it has been so to some extent in America, but in England, and on the continent, it certainly is not so. In Brussels different methods of accumulator traction have been tried for very many years past, but they are not a success.

198. *Chairman.*] Have you prepared an estimate of the cost of adapting electricity to the existing line from Bridge-street to Redfern with a five-minutes service? Yes, it is as follows:—

Outside electric work	£5,600
Car-house, present accommodation to be used	.....
Power plant proportion	3,200
Eight motor-cars	4,640
Total	£13,440

199. *Mr. Lee.*] Are the Committee to understand that the railway station would be the electric termination of the proposed line? Yes.

200. And that the Harris-street line would be a separate and distinct service? No. Every fifth car would run through to Harris-street.

201. Would there be a connection or a continuation of the electric system from the station to Harris-street? The plan on the easel shows the junction at Redfern. The railway trams will pass along the two red lines, going up George-street till they come to the black lines, which represent the existing line.

202. At what point would it touch? Just opposite the Benevolent Asylum—at the corner. The line into the station would have to be wired. Then for the Harris-street traffic, the trams would turn off where the green line is shown.

203. Is that an existing line? No; it would be a new line. That line will have to be wired until it comes on to the existing line, near Terminus-street. The wiring would have to be continued right round into Harris-street.

204. There would be a continuous electric traction from Circular Quay to the railway-station; also to Harris-street, and thence to the terminus in Harris-street? Yes; only that opposite to the Benevolent Asylum there would have to be an additional piece of line laid down to carry the electric current.

205. You have prepared a statement showing the width of York-street, King-street, and Pitt-street at different points? Yes; it is as follows:—

York-street.	
Jamieson-street to Barrack-street	35 feet.
Barrack-street to Market-street	36 ,,
Market-street to Druitt-street	66 ,,
King-street.	
Ferry to George-street	35 ,,
George-street to Elizabeth-street	36 ,,
Elizabeth-street to St. James' Church	34 ,,
Pitt-street.	
Circular Quay to Hunter-street	35 ,,
Hunter-street to King-street	38 ,,
King-street to Bathurst-street	36 ,,

206. At which of these points would it be necessary to use a span-wire? In all these cases I would use it. I would not attempt to put central poles in any of these streets, only on York-street, between Market and Druitt Streets, where there is plenty of width, you could do it.

207. I want to know exactly the spots where these span-wires would be used? I think that in George-street until the width is reduced below the 43 feet, the central poles and brackets should be used; but where it is less than that span-wires should be used. 208.

*NOTE (*on revision*):—I understood this question to apply to the conduit system, and answered accordingly. The ordinary cars would not be suitable for the storage battery system; other cars constructed with plenty of room to carry the cells would be required.

H. Deane, Esq.
20 Mar., 1896.

208. Are all the other portions of George-street wider? Yes.
209. There will be no necessity to use span-wires at these intermediate points? No.
210. But there would, you think, at the points you have indicated? Yes.
211. The statement you read shows the several points where the span-wires would have to be used? Yes.
212. Are there any others? No; except it may be necessary at the junction, near the railway-station to use some span-wires. That is a matter which would have to be gone into in detail and arranged. I could not say at the present moment. It has not been gone into in detail. It is possible that some span-wires may be necessary there.
213. How do you propose to use the span-wires in George-street—from poles fixed at every kerb, and from pole to pole, or from house to house? From pole to pole. In some places elsewhere, they are fixed from house to house, and it may be possible to do so here, but I have not provided for that. It could not be done without examining carefully the condition of each house where you propose to put up the wire.
214. Have the Government power to make such an attachment to a private house? I do not propose to do it, unless it is found desirable afterwards.
215. But has it not been decided by the Department definitely whether at that particular point the connection would be made from post to post, and not from house to house? No; that is a detail which may be gone into at any time. The estimate includes the erection of poles and span-wires for that section.
216. But supposing the owner of a private house were to object to a span-wire connection of that sort? I say the estimate provides for the erection of poles and span-wires.
217. It would assist largely to allay public feeling if it were known whether it has been definitely settled by the Department how they were going to fix the span-wires? On poles.
218. That is definitely settled? Yes; that is the proposal. I only mentioned the other alternative, as it has cropped up, that it might be done if found more convenient.
219. In the case of the junction near the Railway Station, it would be necessary, I presume, to put up two rows of poles for the purpose of carrying the span-wires? I think what may be necessary will be to run poles down the centre of the green line, and when you get on to George-street West, nearly opposite to the entrance to the railway yard, to start there with span-wires, because there is no room for central poles between the existing roads. An arrangement of span-wires must in some way be introduced for the branch lines into the station.
220. That point has received consideration? Yes.
221. In your travels through America, did you see tramways running up one side of the road, and down the other side—that is close to the kerb? I have seen it in the country, or in suburbs, but not in cities. I do not remember a single instance in any city or in any important suburb where they have run close to the kerb.
222. What are the Departmental objections, or the natural objections to putting one line of rail at one side of the street, so as to deliver passengers on to the kerb, and taking another line in a similar way down the other side of the street, thus doing away with the central poles? The objection to that plan would be that there would be no room for standing carts and carriages.
223. Is that the only objection? I think that is the only objection, but it is a very serious one.
224. But is that objection a greater one than the objection to putting passengers down in the centre of a very busy and narrow street? There has been no difficulty found elsewhere that I know of.
225. You are aware that in several places the Ocean-street cable tram runs alongside the kerb? In Upper William-street North and Upper William-street South, which it may be said are half streets, and really must be treated as such. The reason why the roads were taken near the kerb there was that the other kerb might be left free.
226. If the passengers could be taken up and set down on to the pavement direct it would, of necessity, obviate a probable danger to the passengers, and would also avoid the interruption to the vehicular traffic which would be caused by the erection of the central posts? I do not think there is anything in that objection. In King-street no difficulty is experienced. It is true that there is less traffic in King-street than there is in George-street, but if there were any difficulty found at all I think that some of it would be apparent in King-street.
227. As regards the policy of putting down an electric tramway in George-street, I presume you do not wish to offer any opinion? I am very strongly in favour of it. It was to consider the general question that Mr. Secretary Lyne gave me a commission to go round and examine into these matters.
228. To acquire the information, with a view of ultimately extending the system through the whole of the city of Sydney? Yes.
229. This proposal is placed before the Committee on the ground that it will relieve the existing tramway of the eastern traffic? The eastern traffic would still be preserved to the existing tramway.
230. No matter whether it comes from west or north, if the traffic wishes to get to the east it must use the existing tramway? Yes.
231. If the western traffic wishes to get to the railway terminus it must use the existing tramway? Yes.
232. Are not the capabilities of that tramway sufficient to carry all the traffic to the railway station? No.
233. Why? There are not half enough trams. My experience is that there ought to be two or three times as many running into the suburbs as there are.
234. Are not one half of these trams running partially empty? A great many of the trams run partially empty, because the omnibuses compete too severely with them. I have stood sometimes at the top of Oxford-street, and seen five or six omnibuses pass before a tram comes along. It is not to be expected that people, if they are in a hurry, will wait for a tram to come. The consequence is that the tram-cars, instead of being fairly full, have to take the leavings of the omnibuses.
235. Is it not a fact that the extension of the tramway service has quadrupled the number of omnibuses? I daresay it has induced a lot of people to live out along the tram-lines.
236. Is not the fact known to you officially that the omnibuses have increased in every direction, and are running in antagonism to every tramline? Yes; I know they are.
237. Do not they also accomplish the journey in less time than the trams do? That I have not observed.
238. Do not they travel the distance for a less fare? In some cases I believe they do.
239. Is it fair then to charge the want of public conveniences as being the cause of the partially empty trams? I do not think you can put it in that way. I thought I had explained my opinion.
240. Do you urge that this tramway along George-street would be the means of excluding a number of public vehicles, such as omnibuses and cabs, from the traffic in that street? It would enable people to travel by electric cars, instead of omnibuses and cabs, in many cases.

241.

H. Deane, Esq. 20 Mar., 1896.

241. That may be;—but do you think it would reduce the number of the omnibuses running in the street? I think it would, eventually.
242. The omnibuses would have to go into George-street whether this tramway be built or not? Yes.
243. The starting point of many of the passengers who travel in these omnibuses would be beyond the starting point of the trams? Yes.
244. And once the passengers were seated in the omnibuses they would be taken to their destination? Yes.
245. Particularly when the fare on the omnibuses is less than the fare on the trams? Yes.
246. Would it not follow that the traffic along George-street must remain as great as it is, and would probably increase as time went on? Yes; but I said "eventually," because if I had charge of the affair and the money, I should make all haste to have all the lines fitted up electrically, so as to make a complete service. I know that is what the Railway Commissioners want to do.
247. But do you not see that when the whole of the suburbs are connected by tram there must of necessity be an omnibus service? Yes; I think there would be few omnibuses though.
248. As long as that omnibus service prevails the omnibuses must come in and out of the city? Yes; but there would be fewer of them.
249. Under these circumstances, how would the traffic in the main street be relieved? There would be fewer omnibuses.
250. Are you in a position to say whether the omnibus traffic that proceeds to the eastern suburbs goes by way of Pitt-street? I think so.
251. And the traffic to the western and south-western suburbs by way of George-street? I believe that is so.
252. You stated that in Broadway, New York, there are no cabs;—are there many omnibuses? No.
253. You also stated that the heavy traffic was very great there;—do you not draw a distinction between heavy traffic and light, quick traffic? Yes.
254. For instance, you have a tramway service running in a comparatively narrow street like George-street, and you have a large stream of light quick traffic going in both directions along the streets;—does it not increase the danger to the pedestrian going to and from the ordinary tram? I do not think there is any danger to be anticipated. I have ascertained that according to the Board of Trade regulations in England the minimum width between the kerb and the nearest rail is 9 feet 6 inches, and in all cases we shall have more than that width, except in that narrow constriction near the Queen's Wharf Road, where the space between the kerb and the nearest rail is exactly 9 feet 6 inches wide. In laying out the tramway we more than meet the Board of Trade regulations; and, as the Committee know, they are specially strict in England with regard to these matters.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, sworn, and examined:—

H. McLachlan, Esq. 20 Mar., 1896.

255. *Chairman.*] You have placed before the Committee some memoranda made by the Railway Commissioners of New South Wales with regard to electric traction? Yes.
256. It deals with the general principle of electric traction? Yes; it is the result of the observations, to a large extent, of the Chief Commissioner for Railways while in England.
257. Have you a statement to make in regard to this tramway proposal? No; but I intend to hand in the statement which has been circulated, and I understand that the Commissioners' report has been read.
258. Can you tell us how the scheme originated? It was originated five or six years ago. It was originated to a very large extent by the necessity for giving some relief to the steam trams. We have a great number of steam motors running and the Commissioners would like to give a better service in some directions, but at present they are hampered very much by the want of room. In their reports from time to time the Commissioners have made some reference to this matter which, perhaps, I may read. As far back as June, 1889, they said:—

EXTRACT from Annual Report, year ending 30th June, 1889.

The terminus at Bridge-street is not adequate for the traffic. It is, however, to be hoped that the cable tram scheme submitted by the Government to Parliament will be approved, and if this is done considerable relief will be afforded, both to the Bridge-street terminus and the crowded lines along Elizabeth-street.

Then in June, 1891, the Commissioners stated in their Annual Report:—

EXTRACT from Annual Report, year ending 30th June, 1891.

The congestion of traffic in Elizabeth-street, and the limited space in Bridge-street yard, cause the business to be carried on under great difficulties during the busy period of the day.

We had hoped that the scheme for cable trams to Circular Quay would have been authorised ere this, and so not only have provided a great public convenience by the new means of transit, but also have materially relieved the existing tram lines into the terminus.

Again, in June, 1892, the Commissioners remarked in their Annual Report:—

EXTRACT from Annual Report, year ending 30th June, 1892.

We drew attention in our Annual Report last year to the necessity for action to be taken with regard to the relief of the Bridge-street yard, either by coming to a decision regarding the extension of the railway into the city, or by providing a cable tram service between the present station at Redfern and the Circular Quay, but we regret that no action has yet been taken. The question is a most urgent one, both in the direction of giving necessary relief to the existing lines, and also to provide a more efficient service for the railway passengers.

The matter was also referred to in the Report for the quarter ending December, 1892, in these terms:—

EXTRACT from Report, quarter ending 31st December, 1892.

We would draw attention to our Annual Reports for 1891 and 1892, wherein we pointed out that the facilities in connection with the existing tramways were being curtailed, and the business was carried on under great difficulties, owing to the limited space in the Bridge-street yard and the crowded condition of Elizabeth-street, and asked that a cable line between Circular Quay and Redfern Station should be constructed. This line would undoubtedly be remunerative, and until this relief is afforded, facilities we wish to extend to some of the suburbs cannot be given.

It was also referred to again in the Report for 1893. It was looked upon by the Commissioners as a desirable work which would pay, which would be a great convenience, and which would, at the same time, give a great amount of relief to the steam trams. We have about 1,200 steam trams running up and down that part of Elizabeth-street which is common to the eastern and western suburbs, and of that number I think 180 are running to the railway station.

259.

H. McLachlan, Esq.
20 Mar., 1896.

259. *Mr. Clarke.*] I presume that this proposal was made by the Commissioners to supersede, to a certain extent, the use of steam trams? Certainly, between the railway station and the city for the present.
260. Is it found that the steam motors do not do their work properly, and to the satisfaction of the public? They do their work very well. They have been, I think, a great convenience to the public, but there has been some progress in street traction since steam motors were first introduced. At the time they were introduced there was no other system known.
261. Still there has been a great improvement made since steam motors began to run a few years back? There have been improvements made in the cars; but the system is, to a very large extent, the same.
262. As regards the cable tram at North Shore, and the cable tram that runs along King-street, what has been the result of the working of these two cable trams? The Commissioners have not yet published a complete year of the transactions on the Ocean-street line. It was opened in September, 1894. For the first year the earnings were not very considerable—2 per cent. practically. The expenses were very heavy. The appliances were not thoroughly in working order. But on the basis of the last four or five monnths' workings, when things seem to have got down to a fairly normal limit, as far as expenses are concerned, the earnings are about 5 per cent. This year we expect to pay about 5 per cent.
263. That shows a considerable improvement? A very considerable improvement.
264. Will you give similar information in regard to the North Shore cable line? That line never has paid. It pays about 2 per cent. It is an expensive line.
265. I presume the same remark will apply to the electric tramway which was established between Randwick and Waverley, and afterwards abandoned? It passed through a district where the traffic is light.
266. And the electric tram at North Shore? There is no profit on that line. Last year it did not pay expenses; but this year it is expected to pay expenses.
267. You are, I presume, entirely in favour of this electric tramway being constructed along George-street? Yes, the Commissioners recommend its construction.
268. Do you think it can be worked more economically than could a cable tram? We have not had a very wide local experience, but that seems to be the experience of people in America where it has been very largely adopted. Five or six years ago electric traction was commencing to make a big start. Let me quote a few figures from an engineering journal to show the growth of the traffic. At that time it had become practically a new power; but there was a big dispute as to which system was the better. Since that time pretty well every extension has been made by electric traction. At the present time in the United States there are 10,630 miles of electric tram roads as against 532 miles of cable tram-roads. One system has remained stationary and the other has gone ahead. The Chicago people, who have the most complete system of cable roads in the world, are giving up their cable roads, and taking to electric roads. The American people would never adopt the electric system unless it was better than the cable system.
269. What are the chief reasons for the Commissioners originating this system? They say it is the best system, according to the experience which was gained by the Chief Commissioner when he was at home recently, and by Mr. Elwell, who went through Europe and America especially to gain information on this subject.
270. Have you considered that in a narrow crowded street like George-street, it would be dangerous to the public to have a double line of tramway there? It has not been found dangerous in other places. I think we have practical experience in King-street that it is not dangerous to the public. The average width of King-street is a little more than the average width of lower George-street.
271. You must expect a much greater traffic on the George-street line than on the Ocean-street line? Still it gives a very good idea as to whether any danger or inconvenience will be caused by the introduction of the system.
272. It has been explained by Mr. Deane, that it is intended in the narrow portion of George-street, particularly that portion near the old Queen's Wharf, to put poles on each side of the street as near to the kerb as possible, and in those portions where the width is greater, to have these poles placed in the centre of the street, and protected by guards;—do not you think that even in that way it would be dangerous to the traffic? I do not think so.
273. And to the passengers? I should not think so.
274. And even with single poles placed in the centre of the street, although they may be protected, they would be very dangerous to horse traffic, to cabs, and vehicles? I should not think so. I think that objection can be pretty well answered by the experience of other places where electric poles and wires are used, and where, I understand, they are not found to be inconvenient or dangerous.
275. Have you considered that many property-owners, as well as business men, would object to have a tram in George-street, because it would interfere with their businesses, and be injurious to their properties? I should think that the business people of George-street would be rather pleased to see a tram there, because it would bring in traffic which now passes out of the street; in fact, I have seen one or two letters from George-street shopkeepers, urging that it should be constructed; at any rate, we have seen no opposition to the scheme. If they felt strongly about the matter, no doubt they would have petitioned against the adoption of the scheme.
276. Would it be necessary to have new cars for the line in George-street? Yes.
277. You cannot utilise the old cars in any way? New cars are included in the estimate. The cars would be made somewhat similar to the cable cars.
278. Have you taken into consideration any more than is suggested in that report what profit might be derived from the opening of this electric line? No. The estimated savings are based on the traffic we are likely to gain.
279. Would not this line, to a certain extent, reduce the earnings or the profit on the existing lines? That certainly would happen. The net earnings would suffer a little, but the expenses of working that traffic would be saved.
280. Supposing a railway were made from Redfern terminus to Circular Quay, would it not interfere not alone with the George-street traffic, but with the traffic on all the existing lines? It certainly would affect the earnings of the cable line as at present estimated, but at the same time there would be sufficient traffic, even if the city railway were made, the Commissioners think, to make this line a paying one, and it would give a relief to the steam trams, which will enable the Commissioners to give a better service to the other suburbs.
281. If you have a railway from Redfern to Circular Quay and a tramway from Circular Quay to Redfern

H. McLachlan, Esq. 20 Mar., 1896.

Redfern Railway Station, would not one interfere with the other? Certainly. I would admit at once that the railway to Circular Quay would decrease the profit which is estimated to be derived from this electric tram, but at the same time the electric tram would still serve its purpose as regards the local traffic. I daresay many railway persons would still find it convenient to get out at Redfern and to go to their places of business by a street tramway rather than by a railway.

282. It is proposed, Mr. Deane said, to carry on the present system to the eastern suburbs for a time as well as to Botany? Yes. The only effect this new line would have immediately on the steam tramway would be the diverson of the railway traffic and local traffic.

283. But the tram-lines to Paddington, Randwick, Botany, the Glebe, Leichhardt, and all the other places would still be carried on? Yes; that is, for the present, at any rate. I presume it is intended ultimately to work these lines on the electrical system. The Commissioners think that this system would be found to be so convenient to the public, that it will lead, sooner or later, to its adoption on the other lines.

284. Have you taken into consideration the number of omnibuses that are running from the suburbs at very low fares, in competition even with the trams? Yes.

285. Will not that interfere to a certain extent with the earnings of this electric line? It would interfere to some extent, but that has been allowed for in the estimate. The same thing happened on the Ocean-street line. People prefer the cable-cars when they can ride in them. I think people would prefer the tram-cars.

286. I suppose you are aware that from some of the suburbs—Randwick, Waverley, and many other places—the omnibuses are carrying passengers to Sydney at a much cheaper rate than are the trams? Yes; we know there is an extensive omnibus competition.

287. There are also omnibuses running along George-street? There is a good number of omnibuses running to the Railway Station. It is expected to get most of that traffic on the tram-line.

288. Why is it proposed to have overhead-wires instead of the conduit system? The overhead-wires are considered to be more economical and better to work. The electrical engineer would be in a position to give you more definite information about the merits of the two systems.

289. In the report which the Railway Commissioners have laid before the Committee, there is a paragraph alluding to the conduit or underground system? Yes.

290. This apparently seems to be pretty favourable to the conduit system? In America the system they laid down is the overhead-wire system—it offers less interference, it is cheaper, and the Commissioners think it is better than the other. It is far better for the Committee to get an expert's opinion on that point.

291. You believe that the overhead-wire system is better and cheaper than the other? The Commissioners are satisfied that it is better at the present time.

292. Notwithstanding that some little danger might result to the passengers or to the traffic? I believe there is very little liability to danger, as the wires are now controlled. In America, where they have 10,000 miles of electric tram-line, there has been no danger experienced from the use of the overhead-wires.

293. Is it possible that any danger may arise from the electric trams coming in contact with the telegraph wires in George-street and Harris-street? You will find from the report of the Commissioners that arrangements have been made, and regulations laid down which really do away with the risk which used to prevail. But that is another point upon which you had better get an expert's opinion.

294. Can you state the reason why the line should be extended down Harris-street, where the traffic is nothing compared with what it is down George-street? The Commissioners think it is a line which will prove a profitable one. If you go along Harris-street you will notice that it is pretty thickly populated, and there is a good deal of street traffic there; knowing that, the extension can be made at not too great a cost.

295. But seeing that we have a bridge from Market-street to Pyrmont, do you think that people would take advantage of the trams even from the Railway Station to the end of Harris-street, when they can go by a much cheaper and easier route over the bridge to Pyrmont? If you can depend upon getting over the bridge. I am afraid if you were in a hurry you would take the tram, because the bridge might be blocked for half an hour while a vessel was going through.

296. Do you think a line from Redfern Station to Harris-street would pay? The Commissioners think it would be a profitable line.

297. Have any statistics been prepared to show that it would pay? It is proposed to call the traffic officer who will give full information.

298. *Mr. Fegan.*] I suppose the reason why you have made this proposal is because you have found that it is really necessary to change your tramway system, especially to deal with the traffic to and from the railway? Yes; ever since June, 1889, the Commissioners have been urging that this relief should be given.

299. What percentage does the steam tram service earn? The last published report of the Tramway service as a whole shows that it was $3\frac{2}{5}$ per cent.

300. What was the percentage on your cable tram service? The Ocean-street line was opened about 15th September, 1894, and for the period ending 30th June, 1895, it returned only 2 per cent. Since that time the line has got down to a normal condition. The expenses are less, and the earnings are better. For the last six months the line has returned about 5 per cent.

301. You believe this electric tram will give greater facilities to the people to get to their places of business than the steam trams give? Yes; it will bring the traffic into a more central part of the city; it will also give the Department that relief which the Commissioners have been for so long asking. It will relieve Elizabeth-street of the railway traffic.

302. But is it a fact that a large number of persons take the omnibuses to their place of business simply because if they were to take the tram they would have to walk a longer distance? Yes; there is not only business traffic but there is a good deal of traffic from Circular Quay which this tram-line would catch.

303. It will be speedier than the steam tramway? I do not know whether it will be much speedier.

304. At what rate do the steam trams go? The electric tram on North Shore runs up to about 10 miles an hour, but in the city where the stoppages are very frequent, the speed depends on the number of passengers taken. You cannot get a quick run at any time. I do not like to say that it would be faster than the other.

305. It takes half an hour to travel in a steam tram from Newtown Road to Bent-street? I think it takes about half an hour from Enmore. H. McLachlan, Esq.
306. Do not you think it is a long time to take to make that short journey? The number of stoppages regulates the time to a large extent. With frequent stoppages you cannot get a quick run at any part of the journey, and much time is consumed in picking up and setting down passengers. 20 Mar., 1896.
307. Do you think that this electric service will be more economical than the other service? More economical and convenient.
308. How will it be more convenient? One of the inconveniences of steam trams is that it does not pay to make a run except with a decent load, and, therefore, you cannot run frequently; but with electric trams you have one car following another down the street at very short intervals.
309. It means that you will employ a greater number of hands? I do not think that comparison has been worked out, but there would be a considerable number of men employed in working the trams.
310. How many men do you employ now on a steam tram? You have two men and one conductor with you, and where you are using three cars, two conductors.
311. How many men would you have on an electric car? A driver and a conductor.
312. So that that would mean, as you are going to run the trams frequently, the employment of more hands? Yes; but no comparison has been made of the number of men likely to be employed.
313. Have you an estimate of what it will cost for fuel? No; that was all worked out and gone into carefully by the Commissioners with the officers in framing the estimate. The Commissioners take the responsibility of supplying the estimate. They considered the details before they prepared the estimate.
314. What service do you propose to give on this new line? That has been worked out too. It would be a very frequent service. In the busy times of the day you would have the cars following very close upon one another. At night they would not be run so frequently. The service would be regulated to meet the traffic, as on the Ocean-street line, where they run every three minutes in the busy portions of the day.
315. During the busy portions of the day the traffic is very much congested on the railway trams? One of the reasons why the Commissioners want this relief is to get a freer road for the steam trams. We have about 1,200 steam trams running every day in Elizabeth-street.
316. Have you any data which will enable us to compare this electric system favourably with the present steam system? No. The electric service will be more frequent than the other; it will run to a more convenient part of the city, and the Commissioners think it will be a financial success.
317. Would it be as safe as the present system? The Commissioners think it would be perfectly safe, but on this point you will be able to get expert evidence from the electrical engineer.
318. On what basis do you come to the conclusion that a 10 per cent. profit would be earned. The details are given.
319. But £8,000 has to be added to this sum? An addition of £8,000, at 3¼ per cent., would reduce the earnings to about 9⅓ per cent.
320. Have you made any scale of fares or charges for this new line? Yes, the Commissioners had something in their minds in framing this estimate.
321. Have you found that wherever you have established a steam tram line you have beaten the omnibuses off the road? The omnibuses do run in competition in many places. In very many cases they give wages which we could not attempt to give. They give very long hours and very low wages.
322. I suppose the major part of the competition is owing to the insufficient number of trams and the length of the journey? Not altogether that.
323. Do not you think it has a great deal to do with it? No; because you will find a lot of competition right in the city, where we run trams very frequently.
324. If you could run a tram frequently, do you not think it would alter the position? Certainly. The more frequent, and the more convenient the tram, certainly the better the opportunity for getting the traffic.
325. Outside Sydney you have got the greater portion of the traffic ultimately;—for instance, taking the tram-line from Newcastle to Wickham, there are very few omnibuses running now, because you have given the people a good service? Yes.
326. And it is the same to Plattsburgh and to Merewether? Yes. The more frequent the service the better you can compete against any other service. With steam trams it does not pay to run with small loads, and you have to run with a heavy motor and with three men; but with a cable or electric tram, where the controlling expense is the same, it does not cost you more for power to run trams frequently.

TUESDAY, 24 MARCH, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. JOHN DAVIES, C.M.G.	CHARLES ALFRED LEE, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, sworn, and further examined:—

327. *Mr. Hassall.*] I presume the Railway Commissioners have gone pretty carefully into the question of this tramway? Yes. H. McLachlan, Esq.
328. Can you, as their representative, state whether they think it will be a payable speculation or not? The result of their consideration is shown in the report which has been read to the Committee.
329. In a report on electric and other tramways which was furnished to the Legislative Assembly on the 15th May last, there is an assertion which I cannot quite understand—"that steam has been tried and failed";—is that opinion arrived at after a comparison of the receipts and expenditure? I do not know the report you refer to, but to a large extent the scheme has answered satisfactorily. It was practically the only system known at the time it was adopted by the late Commissioner. But since then such a 24 Mar., 1896.

great

H. McLachlan, Esq.

24 Mar., 1896.

great improvement has been made in street traction that steam has been quite superseded by other systems—first by the cable system, and now by electricity, which, according to expert evidence, is certainly the best one for street traction. It is better, more convenient, and more economical than steam.

330. The steam tram is now practically out of date? Practically.

331. In consequence of other methods of traction being cheaper and more convenient in every possible way? Yes.

332. In this report it is stated, "There are, perhaps, places where, on account of density of traffic and grade, there would be no choice but to use the cable." I should judge from that passage that the traffic might be so heavy in a thoroughfare like George-street that the electric appliances would not be able to deal with it? There is no doubt that the electrical appliances will be able to deal with any traffic in George-street. That is the opinion of the Commissioners.

333. And in Harris-street? Yes.

334. There are no grades sufficiently steep to necessitate the use of the cable system? No.

335. Do you know what the steepest grade is? The Commissioners, in the first paragraph of their statement, say:—

> Now that a fairly perfect motor is obtainable, the question of economical working on grades, even up to 1 in 8, has been satisfactorily solved, and a number of cities may be enumerated where electric cars are working on grades exceeding 1 in 12; the extra power required makes little difference in the cost.

336. Can you give any evidence as to the efficiency of the various systems of electric traction? The Commissioners propose that their electrical engineer should be examined on this subject; but as far as they are aware the overhead electric system has proved itself by experience to be the best one. The reasons for this conclusion will be stated by their expert engineer. The soundness of their conclusion is shown to a large extent by the adoption of the overhead electrical system practically to the exclusion of all other systems. There are a few lines laid down on the conduit system, and a few lines on the accumulator system, but practically the whole of the electric tramways are laid down on the overhead system.

337. I notice in this report that the conduit system established in Budapesth is completely successful? Yes.

338. As there appears to be some objection to the erection of the poles to carry the overhead wires, it is desirable to ascertain why the conduit system would not be equally as satisfactory as the overhead system? As far as I can ascertain, the conduit system so far has proved itself to be much more costly and more liable to interruption. It would be like putting a cable road down in George-street. You can understand how it would interfere with the traffic to put down a cable road. The overhead system does not interfere with the surface of the road so much. The overhead-wire system has proved to be less liable to interruption, to be more economical, and to be more certain in its working.

339. Have you considered the question of the horse-power necessary to drive the respective systems? No; that is a matter for an expert to consider.

340. Would not this tramway be a great public inconvenience where the vehicular traffic is so heavy as it is in George-street? Of course, the narrower the street is the more interruption there would be from any tramway. In other cities, with streets no wider than the streets of Sydney, they have a double line of tramway running up and down the streets. I think King-street affords a proof that a double line of tramway in George-street will not prove such a handicap as some people imagine it will. King-street is only 2 feet 8 inches wider than the narrowest part of George-street.

341. What gauge do you propose to adopt? The standard gauge—4 feet 8½ inches.

342. You could not well compare the traffic in King-street with the traffic in George-street? Where the busy traffic is in George-street the street is wider. I do not think the traffic is denser in Lower George-street than it is in King-street, and it will relieve George-street of a number of omnibuses.

343. There are streets running parallel with King-street which carry a great deal of vehicular traffic, such as Market-street and Hunter-street? There are streets running parallel with George-street—York-street and Pitt-street.

344. But does not the bulk of the traffic run from the Railway Station towards Circular Quay? Yes; but by the adoption of this tram you will relieve George-street of a lot of omnibus traffic.

345. A great deal of the traffic towards the western suburbs practically goes down Market-street? I do not think there is any omnibus traffic over the bridge.

346. A good deal of vehicular traffic, as well as other traffic out towards the western suburbs, goes down Market-street, so that King-street would not be looked upon as the main thoroughfare? There is certainly a big vehicular traffic in King-street. There are cities in different parts of the world with streets no wider than the streets of Sydney, and with a bigger traffic on them. I believe that Broadway in New York in certain parts is very little wider than Lower George-street, and there I should think the traffic would be much greater than it is in Lower George-street. In Boston and other places the streets are also equally narrow.

347. Do the Commissioners think that this line will pay? Yes.

348. And pay well in competition with the omnibuses? Yes.

349. How does the traffic on the existing tramways compare with the omnibus traffic? The omnibus traffic competes in a good many directions with the trams, but the trams have been paying their way practically up to date.

350. Do not you think, if a better system were adopted, the trams would pay much better than they do? I think so.

351. There are six 'bus proprietors in Waverley running, I think, eight 'buses into the city at a fare of 3d. for the through journey, while the fare on the tram is 4d.;—do not you think that practically gives them an advantage over the trams? It would seem so.

352. It must be admitted that they derive a good deal of benefit, because they are all able to live at the work? Yes.

353. Do you think the establishment of either an electric or a cable tram would be more beneficial to the public, and result in largely increased returns to the Department? The Commissioners think that by the adoption of the electric system generally they would be able to compete better with many competing services for the ordinary traffic. The steam tram is an expensive one to run. It does not pay to run a steam tram with a light load, but with the electric system you can afford to run the cars much more frequently.

354.

H. McLachlan, Esq.

24 Mar., 1896.

354. Can you give any information as to the working of the cable trams to Ocean-street? For the first nine and a half months of its existence it paid a little under 2 per cent. on the cost of construction. At first a good many expenses had to be borne by the revenue. Since then the working of the tram has become less costly, the traffic has been better, and it is paying 5 per cent. on a total cost of £170,000. It would have been paying over 10 per cent. if it had been constructed within the estimate of the Commissioners.
355. The Commissioners think that a tramway through the busy part of the city would be equally satisfactory, if not more so? They do; and they think that electricity is a better power to use, as it has been developed since the cable line was laid down.
356. *Mr. Wright.*] You have a tramway running to Redfern Station, the Glebe, Forest Lodge, Balmain, Newtown, St. Peter's, Waterloo, Redfern, Botany, Surry Hills, Randwick, Paddington, Waverley, Bondi, and Ocean-street? Yes.
357. Is it not a fact that on every tram-line the 'buses are able to compete successfully with the trams? Yes, 'buses are running.
358. Is it not a fact that you can go from Sydney to Bondi Beach for 3d. by 'bus, as against 4d. by tram? I have not the Bondi fares here.
359. Are you aware of any other city with a tramway system where the 'buses are successfully competing with the trams? Not of my own knowledge.
360. You are aware that in Melbourne the 'buses have entirely disappeared from the streets? Yes.
361. You would account for that, I suppose, by the very good service they have, and the frequent trams they run? The Omnibus Company themselves started the tramway service there.
362. There are many other companies running 'buses in Melbourne besides the Tramway and Omnibus Company? I am not aware.
363. I suppose you assign as a reason for the disappearance of the 'buses the good and frequent service which is afforded by the cable tram? I am not acquainted with the conditions. The Municipal authorities may not have cared to license opposition 'buses.
364. Looking at the fact that the 'buses are successfully competing with the State trams here, not by reason of the infrequency of the tram service, because I have frequently seen persons allow the trams to go by until a 'bus came along, has it not struck you that the item of expense is a big factor in this thing? The 'bus company are running at a cheaper fare, and are not paying so much in wages.
365. From the answer you gave, I take it that you regard the infrequent service in some instances as the cause of allowing the 'buses to compete? It must affect us to some extent. Another reason is that the 'buses run to a more central part of the city.
366. The 'buses do not run quite as frequently as the trams? They generally run in front of the trams.
367. I, as a traveller from the suburbs, have frequently seen five or six persons waiting at a corner for a 'bus to come, and allowing the tram to pass by;—can you give any idea what fare the Commissioners propose to charge from the Railway Station to Circular Quay? The fares have not been definitely settled. The Commissioners may want to make some intermediate section, but their idea is to charge 2d. for the through journey.
368. What do you charge on the railway trams? The fare is 1½d.
369. Do you think the Commissioners are likely to get 2d. if the 'buses can render the service for 1d.? I do not think the 'buses will.
370. Do not you know that a short time ago a very powerful company was started in Sydney to run a penny 'bus service to the railway station, and that the Transit Commissioners refused to grant them a license? I do not think the company was started. I remember that a company was mooted.
371. If a company is prepared to carry people to the station for a penny by 'bus, how can the Commissioners reasonably expect to get the traffic with a 2d. fare? At the present time no 'bus runs for less than 2d. to the railway station. The Commissioners would rather not give the fares, because circumstances may cause them to alter them, as they altered the sections on the Ocean-street line right up to the last moment. At present they think the through fare will be 2d.
372. Do you think the public are likely to patronise the trams at 2d. for the journey when they can travel in the 'bus for 1d.? I do not think it will pay a 'bus to run for 1d.
373. A company in this city have applied for a license for twelve 'buses to run to the railway station for 1d.? I do not think that fare would honestly pay for the horse-feed and the 'buses, and a living wage for the men.
374. What traffic can you reasonably expect to get in George-street other than what is now carried in George-street by 'bus, and by your steam trams from the railway? These two items alone are what the traffic has been calculated upon.
375. It appears from the report you submitted that you contemplate the disappearance of all the 'buses? Of the railway 'buses to a large extent.
376. There are only four or five railway 'buses in all? The officer who took out the traffic took the actual number of passengers travelling.
377. The 'buses from the Glebe, Leichhardt, St. Peter's, and Newtown will still ply in George-street? Yes.
378. And these 'buses will be competitors with your tram? As far as the expected revenue from this tram-line is concerned all the traffic carried by the through 'buses was not considered as local business.
379. But you lose sight of the fact that these 'buses passing up and down the street partly loaded would be active competitors with you for the George-street traffic? The trams would run so frequently, and the people would find tram travelling so convenient, that I think if they had to wait a minute for a tram to come, they would prefer to wait that time, rather than take a 'bus.
380. The Commissioners have not found it so on the Ocean-street line? There is not a great deal of local traffic running there now.
381. 'Buses are still running? Only one-half the number that used to run when the line was opened. Our earnings have gone up considerably on the cable tram. It is now earning £2,500 a month.
382. Can you give us any idea as to the relative cost of working the electric system as against the cable system? It is shown to some extent in the Commissioners' paper.
383. I cannot see anything in their paper on that head? There is a memorandum of the cost. It is difficult to give a comparison, because they run under different local conditions, as a rule.

H. McLachlan, Esq. 24 Mar., 1896.

384. You are not in a position, I suppose, to give the cost of electricity *versus* the cost of steam or cable? No; but I daresay our engineer will be able to give that information.
385. Do you know that the city of Sydney is almost a unique city in this respect, that with our narrow streets we have no back lanes to carry our mercantile traffic? I am not aware.
386. In any other city in Australia—Melbourne, Brisbane, or Adelaide—the whole of the mercantile traffic is taken through back lanes, but in George-street, Sydney, nearly all the goods are taken in across the pavements? There is no comparison with Melbourne, on account of its wide streets, but our principal goods traffic is done in York-street and Clarence-street.
387. We have large business houses in George-street? A good deal of the goods business is getting out of George-street.
388. Large houses are taking in their goods across the pavement in George-street because there are no back lanes? Yes.
389. If you go to any of the drapers' shops in the afternoon you will find three or four lorries in front of their doors loaded with goods? Yes.
390. In the estimate of the cost of this tramway you add 3½ per cent. as the interest on the money;—are you satisfied that you have ever got, or can ever get money at 3½ per cent.? Yes; I think it is a reasonable rate to allow.
391. Have you ever got money at that rate? The Government of the Colony floated a 3 per cent. loan last October. Nearly £7,000,000 was subscribed; and the average amount realised was £96 18s. 3d. per cent.; and about the 20th February last a cablegram was received from the Agent-General saying that New South Wales 3 per cent. stock was at par. That is one instance I give.
392. We did not get par for it? We got £96 18s. 3d. per cent.
393. Less 2½ per cent. brokerage? There is no 2½ per cent. brokerage. Since then South Australia floated a loan of nearly £1,000,000. About £4,000,000 was offered, and their average was £97 4s. 11d. per cent. The money market is easy, and it is reasonable to take 3½ per cent. as about the price at which we can borrow now.
394. Are you prepared to state that the Railway Department has ever received money at as low a rate as 3¾ per cent., all charges being paid? I take the last 3 per cent. loan, which realized practically £97 per. cent. The brokerage is ½ per cent., and the Bank costs come to about ½ per cent., representing 1 per cent, which is only paid when the loan is floated. That is only $\frac{1}{20}$ per cent. spread over twenty years.
395. You have to pay the advertising charges? On a loan of £1,000,000 that does not come to a very big item, and it is only paid once.
396. I ask you whether the Railway Department has ever received money at as low a rate as 3¾ per cent. net? I instanced the last loan, which realised £97 per cent., and since it was floated the stock has reached par.
397. Was that a railway loan? It was a loan for public works. No loan is raised for a railway specially.
398. You state emphatically that money has been received for the construction of railways at a less rate than 3¾ per cent.? Yes; that is spread over the whole term of the loan.
399. I am asking if there is one individual case? I have given an instance. I think the facts are clear enough.
400. Can you explain why, with all the appliances which the Department have at their command, and with a tramway running to every suburb for a distance of 5 or 6 miles you cannot monopolise the traffic on each line. Do you think it is owing to the high fares you charge that the 'buses so successfully compete with your trams? I do not think you can consider the fares too high. The fares are reasonable, but there are a number of circumstances to be considered.
401. The country has spent large sums in constructing tramways in all directions from Sydney. The tramways are not paying anything like the money they should pay, and I want you, as Secretary for Railways, to explain why they do not produce better results? The tramways have been profitable; they have been paying 4 per cent.
402. Why should such successful private competition take place with the State tramways? First of all the 'buses in many cases run in front of the trams. We cannot run the trams too frequently. In many cases the 'buses run alongside the doors of the people, and they run through more central parts of the city. The Railway Commissioners endeavour to pay as reasonable a rate of wages as they can to their employees. The 'buses simply pay, as far as I can see in many cases, starvation wages—I understand that some men have been paid 5s. a day for fourteen hours' labour. That information was given in reply to a question asked in the House some time ago.
403. You think one important fact is that the 'buses can secure labour very much more cheaply than the Commissioners can? They have secured it.
404. By that means they are able to out-bid you for the service? I think that is one reason.
405. You know it is generally admitted that horse traction is much more expensive than steam traction; and even admitting that you are paying a larger wage than the 'bus Company pays, you must recollect this fact, that a 'bus carrying twenty passengers pays a man, and a tramway carrying 120 passengers pays two or three men? It pays three men. But you must recollect also that we have to pay £40,000 a year to keep the roads in order for the 'buses to run on. During the last few years we have had to pay £40,000 a year in this way, while the 'buses are not taxed at all.
406. Your answer is that you have to make your own roads, whereas the 'bus Company's roads are made by the various municipalities? And to a large extent by the Tramway Department.
407. *Mr. Lee.*] If you could add £40,000 on to your profit, it would show a good return for the tramways? Yes.
408. *Mr. Wright.*] You think that if the 'bus companies had to pay a moderate proportion of the expenditure for road maintenance, they would be in a worse position than the tramways are—that they would not pay in fact? I do not think they can pay very well now. We have a 'bus company in the city, and I do not think it has paid many dividends for the last few years.
409. From inquiries of different people, and from my reading, I find that in every city but Sydney, where a tramway system has been introduced, they have managed to knock the 'buses off the roads, whereas in Sydney, instead of diminishing, the 'bus traffic is steadily increasing month by month? Yes.
410. Are you able to say whether it would be possible for the Commissioners to run at a reduction on the present rate, and still make the trams pay the interest on the cost, and the working expenses? That is

H. McLachlan, Esq.

24 Mar., 1896.

is a question I would not like to answer—with our present steam trams. I think the Commissioners have an idea that with electricity they could do something better.

411. *Mr. Trickett.*] Can you tell us by what means you estimate £45,000 as the value of the passenger traffic on the electric tramway? The traffic officer who collected the information will presently appear before the Committee.

412. Is the North Shore electric tram-line a paying concern? No; it is not paying interest. It is hardly in a favourable locality, because the population is so sparse.

413. What was the idea of putting the line there? The Commissioners did not build the tramway or recommend its construction.

414. What power have you there for generating electricity—the same engine as drives the cable? There has been some little addition made, but practically the engine-power in the cable house is used to a large extent to work the electric line.

415. That would appear to be a cheaply worked line? It is a cheaply worked line, considering the traffic. According to the last return it was costing 7d. a car mile, which is fairly cheap.

416. The following paragraph appears in the paper handed in on behalf of the Commissioners:—

> Taking a station of moderate size, under average conditions, where coal is about 10s. per ton, wages about the same as in Sydney (the maximum rate in America), the cost of power (including repairs and renewals), stores of all kinds and superintendence, does not usually exceed 1d. per car mile.

I do not think any line is run for 1d. per car mile.

417. According to your own paper it is done? That represents only the cost of the power. It does not include the cost of the conductor, the driver, or the men on the track. On page 4 of their report the Commissioners say that the Chicago City Railway Company's balance-sheet shows the operating expenses per car mile as follows:—Cable 5d.; electric, 8d.

418. These two items would be about the same here? The cost depends very largely upon local circumstances. I think it averages about 7d. in America.

419. Is the line at North Shore running satisfactorily now? Very satisfactorily.

420. There are no breakdowns? No. It has been working very smoothly for a long time past.

421. *Mr. Davies.*] Did the Railway Commissioners place themselves in communication with the municipal authorities as to whether they possessed the right to lay down this tram in George-street? No.

422. Was not that one of their first duties? No, because the Commissioners do not take the initiative in regard to laying down the line or making arrangements for its construction. That is a matter for the Government to deal with. I should think it would be provided for in the Bill authorising the construction of the line.

423. Have not the Commissioners on all past occasions when they have had to deal with city trams had to make arrangements with the city corporation? In respect of existing lines. A new line is not under the control of the Commissioners until it is finished. With the exception of making a report to the Government the Commissioners have nothing to do with the initiation of a line.

424. Are you not aware that the streets within the boundaries of the city are absolutely under the control of the corporation? Yes.

425. The corporation has supreme power over the streets unless you get additional legislation? Yes.

426. Would it not have been a courteous thing for the Commissioners to have asked the civic authorities whether they would consent, on behalf of the citizens, to have these gallows erected across a narrow street like George-street? That is not the duty of the Commissioners.

427. It is not the duty of the Commissioners to usurp the authority of the city corporation? No. The policy of making any line does not rest with the Commissioners, but with the Government.

428. Would it not have been a reasonable thing for the Commissioners to have communicated with the city authorities? I am inclined to think that the Commissioners would consider it rather outside their power to take that course. They do not deal with a new line until it is handed over, and they take it that all preliminaries have been settled by other authorities.

429. Do you think after the example we had of that toy, which you erected between Randwick and Waverley—the electric tramway with overhead wires, which was an absolute failure—the citizens are going to submit to having a tramway of that kind laid down in the city? I think the citizens will, because it will be a public convenience. As a matter of fact the poles now used are not very unsightly, for great improvements have been made in this respect. In all other cities the poles are adopted without, apparently, giving any trouble.

430. Supposing a fire were to break out in a five-storied building in this narrow street, how could the brigade possibly extinguish the fire without interrupting the line and disturbing the traffic for hours, perhaps for weeks? It has been possible in the past, with a much more elaborate system of telegraph wires, to do that. But, as a matter of fact, with the new system of tramways, they have short feeding sections, so that if one were interfered with, it would cause very little interruption to the traffic;—it is not a new question you are dealing with. Over 10,000 miles of electric tramways exist in other parts of the world, and, as far as we are advised, without practically any inconvenience to the public.

431. We have had the practical example of your electric tram between Randwick and Waverley;—is it not a fact that the income derived from that tram was not sufficient to pay the porter's wages? Yes; simply because there was no traffic on the line. It had not paid very well as a steam tramway. The electric tram was started as an experiment on a part of the line where, if it failed, there would be less interruption than there would have been on any other part of the line. It was admitted that it was not a line which would prove financially successful.

432. What engineer was responsible for that expenditure? Mr. Cracknell was adviser to some extent at the time. It was laid down on the then best known system of electric traction. To some extent the Public Works Committee of that date pressed for the experiment being made.

433. On account of its failure it was removed to North Shore? Not on account of its failure.

434. Then why did you not allow it to remain where it was? Because it was found that it might be more useful at North Shore. It has never been a failure.

435. Is it not a fact that there was not sufficient money taken on that electric line at Randwick to pay the wages of the porter? I think in nine months it earned £300 or £400. It did not pay working expenses, and no other system would have paid working expenses there.

436. It did not pay for the two men who worked the tram? I think that is just about what it did pay. No system

H. McLachlan, Esq.

24 Mar., 1896.

system would have paid there. It was tried in a district where there was practically no traffic. It was considered the best place in which to make an experiment with the electric system, and the experiment was largely pressed for by the Public Works Committee of the day.

437. How will it facilitate the traffic along George-street to have these overhead wires erected from Harris-street to Circular Quay? It will give the public a more convenient means of travelling. It will be a more suitable and convenient means of travelling than a 'bus.

438. I suppose you are aware that in Melbourne the City Council have the power, and that they have exercised the power, of levying a rate on all the trams? Yes.

439. Supposing the City Council here were to adopt that plan, what would become of your profits? It would be very unfair if the tax were levied on the tramway, and not on the 'buses. If it were levied all round the public would simply have to pay it.

440. Would it not interfere very largely with your profits;—if the City Council assess the capital value of your property at 5 per cent., and the competition with the 'buses is so keen that they can run at a much lower fare than you can do, is this tramway likely to relieve the streets at all of the traffic? Half the 'buses have gone off the Ocean-street cable line already, and I think if an electric line were built in George-street it would take the great bulk of the traffic. In my opinion it would certainly get the railway traffic.

441. Are there not frequent break-downs on the electric tram at North Shore? No.

442. Not within the last three or four months? No, it has been working very satisfactorily.

443. I was over at North Shore a little more than three months ago, and the tramway was stopped and could not run? There have been one or two accidents; but, on the whole, the running of this tram has been very satisfactory.

444. Have the Commissioners got a comparison between the cost of the overhead system and the cost of the accumulator system? I will read one or two papers which have been written on the subject. Mr. J. Clifton Robinson, who is one of the leading tramway authorities in England, and who is now managing several electric tramway companies, contributed to the *Pall Mall Gazette*, of 12th November last, the following article upon the advantages and feasibility of electric tramways for London:—

We have received the following from Mr. J Clifton Robinson, A.I.C.E., who is widely known on both sides of the Atlantic in connection with matters of tramway management and engineering:—

To the Editor of the *Pall Mall Gazette*,—

Sir,

The "plea by one who wants them" in your issue of the 1st instant, raises a question of the greatest importance to the whole of London, and I would crave a little of your space to show, in the first place, what has stood in the way of this advance in tramway traction, and thereafter to illustrate its benefits by reference to tramway extensions and conversions in which I have been actively engaged for the past two or three years. The result of extended observation and practical knowledge is my conviction that up to the present time no method of traction has been introduced that is so safe, so economical, and of such universal applicability as the overhead trolly system,

Of the Portrush and Giant's Causeway electric tramway, and the accident which recently occurred there, it is not necessary to say more than a few words. The line is situated in an open and sparsely-populated country district, and being practically isolated from the ordinary path of travel, the exposed electrical conducting rail had hitherto proved generally innoxious. The tramway, or rather light railway, was opened about fifteen years ago, when little or nothing was known of electric traction methods, and a plan was introduced which no sane man, even at that time, would have suggested for use in town, and which even in the most forlorn and distant regions would not now be proposed for use. The only merit of the Portrush line is the lesson it early afforded of the value of water power in generating the electric current for traction purposes.

The conduit system is not one that has commended itself for practical use. Its capital cost approximates to that of a cable tramway, making it financially possible, if possible at all, only in the most densely-populated districts, and excellent climatic reasons can be adduced why it should not be adopted in this country. It is a significant comment on its value that in the past ten years, when all mechanical means of traction have been eagerly sought after, the conduit system is only found in tentative use in New York, and at Buda-Pesth and Blackpool.

The County Council Objection.

As regards the obstacle in the way of introducing electric traction into London, the most instructive way I can show this is to give a plain narrative of facts. In the autumn of 1894, the London United Tramways (Limited), of which I am the Managing Director, turned attention to the powers granted to their predecessors, the West Metropolitan Company, under Acts of Parliament passed in 1889 and 1891. These included the reconstruction as double line of the tramway in the Uxbridge Road, between Shepherd's Bush-green and Acton, and my Company sought to take advantage of the opportunity when rebuilding this line to introduce the most approved form of electric traction as an object lesson within the metropolitan area. From various considerations, such as the width and the suitability of the roadway, the character of the district, and the opportunity afforded of combining the electric lighting of the road with the working of the new tramway, the company regarded the circumstances as especially favourable, and proceeded to obtain the necessary consent of the local authorities. The assent of the Hammersmith Vestry was unanimously granted on the 14th of November last year, after members of the Vestry had visited Havre, as one of the most recent and most easily accessible examples of the adoption of the overhead-wire system within a busy city. The Vestry also appointed a deputation of their Works and Electrical Committee to attend the London Council in support of the company's application. Statements showing fully what was proposed, and indicating the extraordinary progress of electric traction in America, on the Continent, and in this country, as well as illustrations of the general appearance of the line then under construction at Bristol, were submitted by me. The matter was remitted to a Committee whose report was strongly against the consent being granted, the objections raised by this Committee being apparently of an entirely sentimental character. With such a report presented to it, it is, perhaps, hardly surprising that the London Council refused its consent, though it is a thing to marvel at that the refusal, which was carried by a large majority, was really the act of the so-called "progressive" members of the Council, and was based upon such fantastic assertions as that the plan would "becloud the sky with a metallic cobweb," or that in America surrounding property had deteriorated where electric overhead traction had been introduced. If these objections are well grounded, how are we to reconcile the construction or conversion of 10,000 miles of electric tramways on this system in America within the last eight years? The refusal was given on 29th January last.

Some Object Lessons.

As, however, illustrations of practical success are of more value than myriads of unfounded objections, I should like to show briefly what has just been done in Bristol, on the basis of my report to the directors, and what is in progress in Dublin, Leeds, Birmingham, Glasgow, and other large cities. The electrical overhead line at Bristol, which was inaugurated on the 14th of October, forms part of the system of the Bristol Tramways and Carriage Company (Limited), founded in 1875, and now comprising a system of 18 miles of tramways. The electric section, 4 miles in length, consists of 2 miles of line reconstructed, leading from the heart of the city to St George, and 2 miles of new line, opening up the manufacturing district of Kingswood, the route presenting every possible difficulty, including narrow and congested thoroughfares. Gradients up to 1 in 15 are encountered, and these are surmounted by the electric motor car, trailing an ordinary car, both fully loaded, and maintaining a uniform speed of 8 miles an hour without apparent effort or difficulty.

The "trolley" wire is supported at a height of 21 feet from the ground, in some parts by centre standards, carrying also the electric light, and in some cases also the gas-lamps, and sometimes upon standards at the kerb, with an arm or bracket supporting the two wires. The standards are placed at an average distance of 120 feet. The best testimony to the

H. M'Lachlan, Esq.

24 Mar., 1896.

the success of the installation, apart from the many signs of public appreciation since the opening of the lines, is afforded by the opinions expressed at the inaugural ceremony by Professor Sylvanus Thompson, F.R.S., whom everybody will recognise as one of the most competent electricians of his time. On behalf of the gas and water interests of Bristol, Professor Thompson watched the process of construction both openly and by covert visits, and his testimony is that, while the efficiency of the mode of traction is unquestionable, the requirements of the Board of Trade for the safety of the public and for the prevention of electrolysis in the street pipes had been most fully carried out. The Bristol local authorities and the Bristol people fully endorse his views as to outward appearance and practical working of the new system. A beautifully illustrated pamphlet, describing the Bristol installation, has been prepared, and to those who cannot visit the City it will show conclusively how futile are the so-called æsthetic objections to the overhead trolly system. Some further practical facts may be stated.

On one of the Bristol horse lines, now carrying two and three-quarter millions of passengers yearly, the loss from lack of speed over this difficult route is calculated to amount to "a sinful waste of one year in a week." The electric car can double the daily mileage, and thus give twofold the accommodation to the public. The car is fitted with electric brakes, by which, independently of the line circuit, the motor-man can stop the car within its own length, even on the steepest descent. The cars are larger and more commodious. They are self-lighted (so to speak) with the electric light at night, and already a quarter of a million of passengers have been carried in safety, and without hitch or delay, despite the disadvantages of opening a new electric system at this season of the year. Outside the power-house, the whole staff of men and boys has been drawn from the ordinary horse-car service, and with a very short training became efficient in the management of the motors.

In Dublin, my company, in the southern district, is just on the eve of completing the entire conversion of their tramways on the electric overhead system. These lines started from a central point in South Dublin, run to Black Rock, Kingstown, and Dalkey; a total length of 16 miles of track will be completed during the present year. During the short interval which has elapsed since the Bristol line has been put in operation the Corporation of Leeds have passed resolutions by decisive majorities covering an expenditure of £249,233 in the conversion of their lines to the overhead trolly system of electric traction, while the Public Works Committee of the Corporation of Birmingham have also framed a strong report to the Council, recommending its adoption in the city, in substitution of horse tramways.

The case of Rouen is of great value from the point of view of the present discussion. Within three days of the adverse decision of the London County Council, and with the knowledge of that decision, the authorities of Rouen granted a concession, not for one year with obligation to remove, as we offered at Hammersmith, but absolutely for a period of forty years, to reconstruct and extend the tramways there on the electric overhead system. Aided by a report drawn up by me for the directors of the company, by their own personal and prolonged inspection of the Havre electric tramways, and with fifteen years' experience of horse and steam traction to guide them, this decision was arrived at by a majority of 27 to 7 in the Municipal Council of Rouen. It is hardly necessary to emphasise the contrast those cases present in view of the action of the London City Council.

I am, &c.,

J. CLIFTON ROBINSON.

To that article Mr. H. Scholey, who is also a tramway authority at home, made the following reply in the *Pall Mall Gazette* of the 14th November:—

Electric Tramways for London.

To the Editor of the *Pall Mall Gazette*,—

Sir,

If Mr. J. Clifton Robinson had not been a very modest man he might have said much more than he did about the advantages of electric traction. Not being weighted with much modesty I shall, with your permission, insist on one or two important points.

The economy in electrically working tramways is so marked that even if it had involved some sacrifice of the beauty of our streets it would have deserved the most careful consideration. To give one instance from America as showing the comparative cost of electricity and any other forms of power, I will quote the West End-street Railway of Boston. In 1888, before electricity had been introduced on the lines, the percentage of expenses to earnings was 82 per cent. The gradual adoption of electricity brought this figure down from year to year until, in 1894, it stood at 66·44 per cent., notwithstanding that old stock, rendered obsolete by the introduction of electricity, had been written off. It is such instances as these that account for the 10,000 miles of electric track, and the £50,000,000 of invested capital which roughly represent American street railway enterprise at the moment.

In the light of the West End railway results it is well to consider what obtains on English tramways. The cost of working horse lines in this country may be anything from 7d. to 1s. per car mile, but it is more often nearer the latter figure. Steam trams, with their greater noise and nuisance, rarely cost less than 9d., while they occasionally figure at 1s. 2d. I am quite aware that there are many difficulties in the way of obtaining accurate working results of British tramways; but I have taken a few figures at haphazard from "Duncan's Manual." In this we find that at Leicester, the lines of which are entirely worked by horses, the 9·58d. per car mile, and the percentage of expenses to receipts is 84·10. At Leeds, where steam trams are used, with the exception of a short length worked by electricity, of which I will speak later, the percentage of expenses to receipts is 99·24. Under these circumstances it is not surprising that the company pays no dividend. At Leamington things are not very much better, for the expenses per car mile amount to 11·25d., and the percentage of expenses to receipts stands at 85·41. Keighley and Ipswich, with horse traction, cost over 90 per cent. of the receipts. The two or three instances of steam traction which I have encountered are still more disastrous. The steam trams at Dudley and Stourbridge cost as much as 12·12d. per car mile. Burnley figures out at 11·69d., and the Huddersfield municipal tramways are as high as 15d. per car mile. The average cost per car mile of the London tramways is slightly over 9d.

Now, as a matter of fact, electrically-worked tramways ought and can be made to work at less than 6d. per car mile, and the percentage of expenses to receipts ought not to be more than 60 per cent. Indeed, I shall be very much disappointed if the recently opened Bristol tramways do not beat this figure.

I am not sure that it is altogether wise to be constantly referring to what has been done in America and on the Continent. Many people object to American figures because local conditions there are so vastly different from what obtains here. But for the purpose of satisfying these objectors I will refer to an electrical line that has been in use at Leeds for three or four years. It is a well-known fact that this is really a poor specimen of an electric line, and certainly does not represent modern practice. Not only is it inefficient, it has also to deal with a very peculiar traffic. Yet in spite of its inefficiency it continues to be worked at 6d. per car mile. It would not be very easy to find a horse line, much less a steam line, worked as cheaply as that.

There is no work for which a horse is so unfitted as that of hauling a tram car. In this case it is not the pace but start that kills.

A word with regard to the spoliation of the streets, the fear of which has prevented so many of our worthy councillors from appreciating the merits of electric traction. We are blessed with few thoroughfares that can be compared with the streets of Milan, Genoa, and Marseilles, yet the electric tramway flourishes there, and it is not considered that the beauty of the streets has suffered at the hands of the electrical engineer. Indeed, I have a personal knowledge of careful inquiries made amongst the inhabitants of these towns, and there was absolutely no objection raised on æsthetic grounds. The County Council, when adjudicating upon overhead tramways, overlooked a very important point—that is, none of the London thoroughfares which are traversed by tramways are remarkable in any way for beauty. It would be a system of surpassing ugliness that could spoil Blackfriars, Gray's Inn, and Pentonville roads; yet, whether rightly or wrongly, it is to such streets that tramways have been relegated.

The tram car has hitherto been the poor man's vehicle, but I look to electricity to so improve and revivify it that it will become the most popular of public conveyances.

Yours, &c.,

22, Paternoster Row, E.C., 13 November, 1895. H. SCHOLEY.

445. *Vice-Chairman.*] What is the expense per car mile in Sydney? It is 1s. 10d. for steam; the wages are very much higher here than at home.

446. What is the cost per car mile on the cable line to Ocean-street? I do not recollect what it is.

447. *Mr. Davies.*] Have the Commissioners had a comparison made between the cost of laying down a cable tram and the cost of laying down an electric tram? Yes.

448.

H. M'Lachlan, Esq.

24 Mar., 1896.

448. Which system would be the more expensive? The cable system.
449. Have you particulars of the difference in the capital cost of the two systems? No; that is a matter for Mr. Deane to deal with.
450. I understand the proposal is to develop power at the power-house at Rushcutter's Bay at an additional expenditure of £36,000 or £37,000? Yes.
451. And the power is to be brought by cable to Harris-street and to Circular Quay? Yes.
452. Have you any idea as to what it will cost? It is all included in Mr. Deane's estimate.
453. Would it cost a little more to lay down a cable absolutely than to take the power from the power-house to those two points by cable? That is a matter upon which an expert can give better evidence. As far as I am informed, the cost of the cable would be very much higher. Mr. Deane and Mr. Elwell will be able to give you the actual figures.
454. Would it not be more economical to erect a power-house at Circular Quay, where the Government have abundance of land, or at the Benevolent Asylum site, where there is abundance of Crown land, than to go down to Rushcutter's Bay and bring the power by cable to Harris-street and to Circular Quay? No; in the opinion of the engineers the more economical plan has been followed of having the power at Rushcutter's Bay. There is practically no loss in the transmission of the power.
455. Is it not a fact that all scientists assert that there is a great loss in the transmission of the power for any great distance? I understand there is practically no loss.
456. Is it not a well-known fact that there is a loss? There used to be a loss; but with the improved system there is very little leakage.
457. You do not know exactly the route by which the feeding cable is to be brought? No.
458. You do not know what the cost will be? No.
459. It is only a rough estimate that Mr. Deane has given? No; I should think it is as clear an estimate as could be given by an experienced and capable man.
460. Is it possible for Mr. Deane to give a clear estimate when he does not know what route he is going to take? That has all been thought out. It is not a new thing which is being submitted. The steam tram was first introduced. It was found to be too expensive to work. It was superseded by the cable tram, and since that time electric traction has proved itself to be a decided success. There are only about 600 miles of cable tramways in the United States. Within the last seven or eight years they have built 10,000 miles of electric trams. As these people spend their own money, and are conversant with both systems on the spot, I think it is a strong argument as to which system is the better one. They would not throw away their money in laying down electric trams if the cable system was a better or a cheaper one.
461. Can you state the difference between the cost of working the cable tram and the cost of working the electric tram? We have no experience of that to my knowledge.
462. This is simply a haphazard sort of estimate? I think that practical result is certainly the strongest argument we can find in favour of the electric system.
463. Going back to the question of erecting overhead wires in narrow streets;—it is proposed in the wider portion of George-street to put in the centre of the street a column with a double arm, and in the narrow portions, where the distance is only 36 feet from kerb to kerb, to erect poles on each side with a single arm? Yes.
464. How high will the wires be from the ground? I think it is 17 feet.
465. Will that be sufficiently high to permit of the wool traffic going along the street? I think so.
466. You are aware that the Government have expended thousands of pounds in building subways in which to place the telegraph wires? I see that they are doing so; but you must recollect that there was a regular network of telegraph wires across the streets. With this tramway there will be only one or two wires. You will see by this illustration in my hand that the proposed posts are not at all unsightly, and that they do not seem to detract from the appearance of the streets. In English cities the public do not view them with disfavour, and there is quite as strong a public feeling in other cities as there is in this city.
467. *Mr. Lee.*] When you stated that the Ocean-street cable tram is paying 5 per cent. on a capital cost of £170,000, did you mean to convey the idea that it is paying 5 per cent. over and above interest and working expenses? No; 5 per cent. over working expenses, or, as we usually say, 5 per cent. on the cost of construction.
468. Is it 5 per cent. after deducting working expenses, and not deducting interest? Yes.
469. Practically showing a profit on the whole transaction? Yes.
470. How was it that the Commissioners' estimate of £80,000 for the construction of that line came to be exceeded by £90,000? It is a question for the Constructing Engineer to answer. The line was handed over to us complete. That was the capital with which the Commissioners had to deal.
471. Do the Commissioners submit this electric tramway proposal as part of a complete system of running electric trams through the city and suburbs? No; they submit this line on its merits in the first instance, but they think that before long it will prove to be such a success that the public will almost demand its extension. The Commissioners are satisfied that it will be an economical thing to extend the system to other systems. They feel sanguine that the result of introducing this electric tramway will be so marked that the public will see the wisdom of extending the system.
472. Has this line been selected with a view to the easy extension of the system? Two or three considerations have influenced the Commissioners. First of all it is a line which will pay; and above that consideration it is a line which will give what the Commissioners have been pressing for since 1889—a great amount of relief to the steam trams. We are running over 1,200 steam trams in and out daily along Elizabeth-street. If you can take off the trams which are running to the Railway Station, it will give a large measure of relief to the steam trams, and enable the Commissioners to give a better service to the suburbs.
473. Supposing an electric tramway is constructed in George-street, will not the Railway trams still run along Elizabeth-street? There will not be direct Railway trams unless on special occasions, because the Railway traffic will pass down George-street. The Newtown, Leichhardt, Botany, Glebe, and Forest Lodge trams will still go past the Railway Station. We run about 180 steam trams a day between the Railway Station and Bridge-street.
474. It is contemplated to discontinue the steam trams to the Railway Station? Yes.
475. And passengers, if they wish to go direct to the railway, will have to go *via* George-street? Yes.
476. Otherwise they must take a passing tram? Yes.

477.

H. McLachlan, Esq. 24 Mar., 1896.

477. What great advantage will it be to the Department, inasmuch as the trams will still have to run over the track, to omit a few trams? It will be an immense relief to the Department to get rid of 180 trams a day. The street is too crowded, and the congestion at Bridge-street is too great. We can give some relief to the other suburbs by giving a better service.
478. Would it not be an enormous inconvenience to the public to be compelled to go to George-street to take the only direct tram to the Railway Station? The benefit to the public would be enormous, because most of the traffic is in George-street. That is why the 'buses to some extent are successful in competing for the traffic. George-street is a more central part of the city than Elizabeth-street.
479. Admitting that it would be a great convenience to George-street people to get to the station direct, do you think it is necessary for the public convenience to have both means of access to the railway station? I do not know that there would be sufficient traffic, except perhaps at the very busy times, when the Commissioners might run special trams; but, practically, the railway traffic into the city will be along George-street. At one time the 'buses used to run down Pitt-street and George-street, but they found that the great bulk of the traffic went into George-street, and, therefore, they ran a very limited service in Pitt-street. The further east you go the less convenient it is for the public to be borne. There is no doubt that George-street is the central part of the city.
480. Is it in contemplation, if this line succeeds, to extend the system generally, as well as to apply it to the existing steam trams? That is the Commissioners' view.
481. But at the present time the Commissioners have not decided upon a general scheme? No.
482. Was not a proposal for a cable tram in Harris-street submitted to the Public Works Committee some few years ago? George-street and Harris-street.
483. Has the traffic, in the opinion of the Commissioners, been sustained to such an extent as to warrant the construction of an electric tramway? Yes. They recommended the construction of a cable tram, and their opinion is not altered.
484. Notwithstanding the fact that since that time increased accommodation is proposed to be given by means of a new bridge to Pyrmont, they think this tramway will be a paying concern? Yes.
485. *Mr. Davies.*] Is it to be understood by the Committee that if this system of electric trams is adopted the Commissioners will give up the idea of extending the railway to the city? I did not say that.
486. Would there be any necessity for both? I think so. I think both would be successful, although of course it must be admitted that a good deal of traffic which would be taken by the electric tram would pass on to the city railway. It would divide the traffic.
487. You do not know whether the Commissioners have made up their minds to abandon the city railway extension? They have not abandoned it.
488. *Mr. Wright.*] Are you aware that the bulk of the Pyrmont traffic would be into the city and out of the city? Still there are a number of 'buses running to Harris-street on a Saturday night. As many as seventeen 'buses are running through the city on a Saturday night.
489. You think you will be able to divert that traffic round by the Railway Station, instead of the people going by the shorter route across the bridge or the ferry? The 'buses do not go across the bridge.
490. Are there seventeen 'buses running to Harris-street? I have heard that there are as many as seventeen 'buses running to Harris-street on a Saturday night.
491. Are they Balmain 'buses passing down Harris-street, or are they local 'buses? I cannot say of my own knowledge.
492. *Vice-Chairman.*] Have you given the cost of operating the Melbourne cable trams? No; but you can get their half-yearly balance-sheet.
493. You have not ascertained what the cost per car mile is there? No.
494. Would not that be a guide to enable the Committee to arrive at a fair comparison between the cost of the cable tram and the cost of the electric tram? Circumstances alter so much, according to localities.
495. In Melbourne, what circumstances would cause any very great difference in the cost per mile? In one case you run a system about 2 miles long; in the other case you run a system 40 miles long; and therefore the proportionate cost of the power in the longer system would not be anything like so great as in the shorter system. If we had the mileage of the North Shore and Ocean-street cable lines controlled by one power-house, we could reduce the expense considerably. It depends again upon the population of the locality. It is difficult to compare two systems, unless you have similar circumstances in each case.
496. Do you know the wages paid to grip men by the Melbourne Company? The Melbourne Company have been altering their wages considerably. The rate of wages we pay cannot, I think, be considered an extravagant one. Conductors receive from 6s. 6d. to 7s. a day, and gripmen from 7s. 6d. to 8s. a day.
497. Do you know what they receive in Melbourne? I have had particulars; but I cannot speak from memory.
498. Is it higher than it is here? It was higher; but I believe it is now lower.
499. I suppose there is not much difference? They have reduced wages there by 35 or 40 per cent.
500. Are you aware that in a paper on electric traction, prepared by the Commissioners for the information of this Committee, it is mentioned that in Chicago, which is taken as a fair example of the advantages of this system, the cost of operating per car mile is 8d. for electric traction as against 5d. for cable traction? Yes; but I think there is a different system of hauling.
501. The explanation appears to be that the earnings of the electric system are greater, because the cars are run more frequently? In their paper the Commissioners say:—

> One is at once struck with the fact that, although the electric traction costs more than the cable on the Chicago city lines, the revenue is more than proportionately greater. This is easily explained by the method in which the cars are worked. The cable cars usually run three together, whilst the electric cars usually run singly or with one trailer. Consequently, in the one case every mile run counts as two or three, and, in the other case, as about one and a half.

502. If the cost were given as per car mile, it would be a fair comparison? The estimate is not for a single car mile. If it were worked out as per mile it would be better.
503. Do you know if the Commissioners have fully taken into consideration the difficulties, if there are any, of running a line of tramway in George-street, and placing the wires in the centre of the street, between the rails? Yes; they have fully considered that.
504. Are they of opinion that the very heavy traffic of George-street will adapt itself to the altered conditions? Yes; according to the experience of other cities where the two lines are in operation.

H. McLachlan, Esq. 24 Mar., 1896.

505. That is the view they take? Yes.
506. Accepting the estimate of Mr. Deane as to the cost of construction, what return do you expect to receive? It would be a little less than 10 per cent., as Mr. Deane has added an item since the Commissioners' estimate was made.
507. Do the Commissioners estimate that they will get a return of 10 per cent. on an outlay of £123,000? Yes.
508. Do you know on what basis that estimate was made? On the basis of what they consider will be the actual traffic. The traffic officer who collected the statistics upon which it is to some extent based will appear before the Committee.
509. Was the information which you propose to furnish to the Committee through the traffic officer before the Railway Commissioners when they made their estimate? It was.
510. They consider that their estimate is not an excessive one? That is so.
511. *Mr. Wright.*] You expect to make £12,500 a year net on this line? Yes.
512. That is nearly as much as you make on all the other lines put together? No.
513. What are the net earnings on the tram-lines? In 1895 it was £45,000 on the city and suburban lines, and on the Ocean-street line it will be about £7,000 or £8,000 a year.
514. *Vice-Chairman.*] Have you estimated the probable earnings on the line if it is made to the railway station, and is not carried down Harris-street? Yes.
515. How much per cent. would be the proportionate return on the cost of the line between Circular Quay and the railway station? I have not that information worked out separately. The traffic officer will furnish the figures.
516. Did it strike the Commissioners that it might be desirable to construct a line between Circular Quay and the railway station, and not to take it down Harris-street? Not to my knowledge.
517. Therefore, you did not make any attempt to ascertain what return would be earned on the line as far as the railway station? No.
518. Have you had before you an estimate of the probable traffic in Harris-street? We have an estimate of the probable traffic. It has been worked out separately from the traffic to the railway.
519. In your opinion, would it be advantageous to discontinue the line at the railway station, or to continue the line down Harris-street? I think it would be profitable to run the whole system as is proposed.
520. *Mr. Wright.*] Can you state from memory what wages you are paying to each class of tramway employee? The conductors get from 6s. to 9s. a day, the firemen from 7s. 6d. to 9s. a day, and the motor-drivers from 11s. to 14s. a day, all working 110 hours per fortnight.
521. *Mr. Lee.*] You stated that it costs the Commissioners over £40,000 a year to maintain the streets through which the steam trams run;—do the Commissioners maintain the roads themselves or do they hand over that money to the City Corporation? The Commissioners maintain their own lines.
522. By reason of an understanding between the City Council and the Commissioners? No. The Commissioners have power under the Act to run trams through the streets.
523. Do not they also maintain the roads for so many feet on either side of the tram-track? For a certain distance beyond the outer rails.
524. In conformity with the statute, or in accordance with an arrangement with the City Council? In conformity with the statute.
525. How do you make a road for the 'bus traffic to pass over? We have to maintain a good width of the street in perfect order, and as a rule the drivers find that portion to be the best maintained portion of the street. They run over it; they pay nothing; and we have to keep the road in order for them.
526. Do you happen to know whether an electric service has the same effect in disturbing the road as a steam service? It would have very much less effect, because there would not be the same weight on the road.
527. Do you contemplate a heavy expenditure in George-street for the maintenance of George-street, so as to carry on the electric trams? No, the estimate is £2,500. The street traffic will affect the track.
528. Any damage which is done to the streets by the Railway Commissioners is repaired, and does not involve the City Council in any loss? Yes; it must be a great advantage to the City Council to have a tramway in a street, because one-half of the street is maintained in good order by the tramway authorities.
529. Do you remember that when the Ocean-street proposal was being considered, Mr. Burdekin, the mayor, raised a question as to the right of the City Council to obtain a certain percentage of the earnings of the tram? I recollect that he gave evidence.
530. Do you remember that that question was raised at the time? Yes.
531. Has that view ever been enforced, or attempted to be enforced, by the City Council? No, not to my knowledge.
532. Have they ever asserted their right to a percentage of the earnings? Not to my knowledge.
533. The cable tram has been laid and worked without any demand of that kind being made by the City Council? Quite so.
534. And what has governed the laying of a tram in that street is likely to govern the laying of trams in other streets? I think so.

John Kneeshaw, Esq., Tramway Traffic Superintendent, Department of Railways, sworn, and examined:—

J. Kneeshaw, Esq. 24 Mar., 1896.

535. *Vice-Chairman.*] What position do you hold? I am Tramway Traffic Superintendent under the Railway Commissioners.
536. Have you prepared any returns for the information of the Committee? No; but I am prepared to give the Committee information as to how I made up my estimate of the traffic.
537. Are you prepared to give the information now? I was told that I should not be called upon to give evidence until Monday.
538. Will you be able to give your evidence in a more complete form if your examination be postponed until to-morrow? Yes.

WEDNESDAY,

WEDNESDAY, 25 *MARCH*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. JOHN DAVIES, C.M.G.	CHARLES ALFRED LEE, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

John Kneeshaw, Esq., Tramway Traffic Superintendent, Department of Railways, sworn, and further examined:—

J. Kneeshaw, Esq. 25 Mar., 1896.

539. *Vice-Chairman.*] Will you state briefly how you arrived at your estimate of the probable earnings and working expenses of the proposed electric tramway in George-street? I calculated that we should carry 5,240,000 passengers on the railway trams, and 2,100,000 passengers on the Ultimo tram, or 7,340,000 passengers per annum. That is not a very high estimate, considering that on the Ocean-street line, where there is not nearly so thick a population, we are carrying nearly 4,000,000 passengers per annum. Working that out at the current fares, I make the annual revenue £45,500. We had a series of accounts taken during last October and November, when we stationed responsible men at a number of street corners to count the 'buses as they passed, and the loading of the 'buses. These returns I summarised. I went into them very thoroughly, and it was on these figures that I based my estimate of the traffic.

540. You had better give the summary? It is rather an elaborate statement, because I had the accounts taken at five distinct places for a week between certain hours. I worked these out in detail, and then took the average per day.

541. Will you explain this statement in such a way that your evidence may be understood? An account was taken at the principal crossing-places. I averaged each day's traffic at each place. I then made an allowance for the 'bus passengers we do not expect to get at all in the railway trams. I deducted a further allowance from the 'bus traffic, which we might reasonably expect to get, but which I did not want to include, as I did not want to be over-sanguine with the estimate. I dropped a considerable portion of that, with the result that I do not think the figures I took are in any way high. They do not come up to the estimate which was made two or three years before by other officers who were making the same calculations. I did not take the same high estimate as they did, for the simple reason that trade had fallen off to a certain extent, and we were not getting the same amount of traffic on either the tramways or the railways now that we were getting when they framed their estimate.

542. You are of opinion that you have under-estimated rather than over-estimated the probable earnings of this proposed tramway? I am convinced that I have under-estimated rather than over-estimated, and that we shall get £45,500 a year. By running railway trams only I anticipate that we shall get £32,000 per annum, and on the Ultimo section I estimate that we shall get £13,500 per annum.

543. What fares have you based your estimate on? On a through fare of 2d.

544. Have you estimated for a special fare between Circular Quay and the railway station? The estimate is based on a through fare of 2d. The distance from Circular Quay to the railway station by the proposed George-street tram will be much longer than the distance from Bridge-street to the railway station by the steam tram.

545. In that case would not the George-street trams be running in competition with the Elizabeth-street tram, where the fare is 1½d. to the railway station? We should discontinue running the steam trams from the railway station—that is, the through trams. I have estimated that fully 75 per cent. of the present railway traffic would go into George-street. People want to go that way, and they will not go by steam when they can get down George-street by electric tram.

546. What further information have you to give? I do not think I can say anything more with regard the passenger traffic. I have explained how I got the information. I went into the matter very thoroughly, as a result of the count of the various 'buses. We had the 'buses counted from early morning until late at night, so that actually we got the number of passengers they carried on the up and down journeys past four different points.

547. You are prepared to say that the Committee may regard your estimate as an under-estimate? I am quite prepared to say it is an under-estimate rather than an over-estimate of the traffic.

548. Will you now give some information as to the cost per car mile as regards the Melbourne cable tram, the Ocean-street cable tram, the North Shore electric tram, and the steam trams? There are two different ways to give the figures for mileage. There is the tram mileage and there is the car mileage. In the case of some lines it is worked out on the car mile; in the case of our lines it is worked out on the tram mileage. That may mean one, two, three, or four cars. All our figures are based on the tram mileage. I have, therefore, had to reduce the Melbourne cable line to tram mileage rather than car mileage. I estimate that there are 2 cars on each Melbourne tram. The expenses of the George-street electric tram would be 9¼d. per tram mile; on the Ocean-street line it is 10¾d. per tram mile; on the North Shore electric line, according to the latest figures I could get, it is 1s. 2d. per tram mile. It is rather less than that now, because the traffic is increasing, and the expenses are decreasing. In the case of the Melbourne cable line I found, after very careful calculation, the cost to be 1s. per tram mile. The working expenses on the whole of the steam trams here is 1s. 10d. per tram mile. The George-street electric line shows the best results, the William-street cable line shows the next best results, and the Melbourne cable line comes third. In preparing the information about the Melbourne line, I did the best I could with their balance-sheet, and with certain information which is given by the chairman of the board at the annual meeting, for they do not publish returns the same as is done here.

549. Would that mean that that for the steam service—1s. 10d. would be the comparison as against 9¼d. for the electric service? Yes.

550. The same number of passengers being provided for by both services? No; not in all cases.

551. To make a fair comparison would it not be necessary to take that into consideration? No; we have had to take the number of miles run. It would work out in the ratio of 9¼d. per tram mile with vehicles carrying 120 passengers. On the steam trams the load would vary from two or three cars, and the estimate might be taken at 150 passengers. There is not a great deal of difference in that way. The

comparison

J. Kneeshaw, Esq. 25 Mar., 1896.

comparison of the working expenses as against the gross revenue on the George-street electric line would, in accordance with the estimates here, be 62·63 per cent. On the steam lines the proportion is 81·82, and that has been reduced very considerably of late years. That is about the lowest we can now get on the steam trams. On the electric tram we can get the proportion down to 62·63. Of course, as the electric system is extended we could bring that percentage of working expenses down still lower, because we are only dealing now with 3 miles 11 chains, and the cost of supervision would be about as much for that length as it would be for another length of 3 miles.

552. In estimating the expenses of the electric system, how have you obtained the information? I worked out an estimate for the traffic staff, and I obtained information from the Locomotive and Permanent-way Departments as to what their probable annual expenses would be.

553. Have you based your estimate on the cost of running in America? No; on the local cost.

554. Which would be very much higher than it is in America? Very much higher. Leaving out the question of interest, I estimated that working expenses would be £28,500, and the gross revenue £45,500, leaving a balance of £17,000 for interest.

555. In your estimate, have you distinguished the general expenses for maintenance and equipment from wages of conductors, power-station expenses, and car-station expenses? Yes; I have included all these three.

556. Will you now give the details of your estimate? The general expenses for conducting the traffic would be £11,000, the permanent-way, for maintenance and repairs, £2,500, and the motive power, including the repairs and the wages of the car-drivers, £15,000. On that basis the profit would be between 12 and 13 per cent. I feel sanguine that we shall get over 10 per cent. without any difficulty.

557. Is there any further information you wish to give? In conversation with a number of business men from time to time about this electric tramway I have found, as a rule, that the George-street business people are very favourable to its introduction, as being conducive to reducing the noise in the street. They look for this electric tram in order to get a better service. It is not really possible to do anything more under existing circumstances, because the yard in Bridge-street is so congested that it is very difficult to get an extra tram or two in sometimes. During the busy hours we often have over 100 trams in and out of the yard in one hour, and during the day the average number of trams in and out of the yard is 1,220. During a busy hour, by the time-table we have ninety trams in and out of the yard; but on holidays, or any busy Saturday when cricket matches are being played, we have from 110 to 120 trams in and out of the yard. It is really impossible to get more in and out during these times. Something will have to be done sooner or later to give other facilities, because we cannot increase the traffic from the yard.

558. You think the time has arrived when provision must be made in some streets other than Elizabeth-street for the conduct of the traffic? Yes. I think the time will come when we shall have not only a tram down George-street, but also a tram down Pitt-street. Sydney people are given to travelling. The streets of Sydney are hilly compared with the streets of Melbourne, and we find that even now the Melbourne public travel far more than do Sydney people, having the facilities to travel. I am satisfied that with tramway facilities here the people would travel much more than they do. There are thousands of people of a morning who walk from the Railway Station as far as the Cathedral or the Town Hall who, with an electric tram in George-street, would take that tram where they would not take a 'bus under present circumstances.

559. Have you taken into consideration in your estimate of the probable increase of traffic by the use of the electric system that many people who now walk between the Railway Station and the Post Office may use the tram? I have made an allowance for that, but I have not been too sanguine in my estimate. I am satisfied that they will eventually use the trams in very large numbers, particularly with a frequent service, and with nice light cars carrying a few more passengers than do the cars on the Ocean-street line. They will be induced to use the trams in the same manner as people are induced to use them in Melbourne.

560. When you speak of a quick service, what interval do you propose to have? The railway trams will run at an interval of 1 or 2 minutes throughout the day.

561. *Mr. Trickett.*] Have you had any experience in the working of electric traction in this country or elsewhere? Yes; in the working of the electric tram at North Shore.

562. What is your experience of the working of that line? My experience is that it is economical, but the system has not had a fair show, because the plant is very much out of date. It was introduced here a number of years ago, and used on an extension line between Randwick and Waverley. Modern appliances will enable the work to be done far more economically than that plant will admit of.

563. Is it liable to break down at any time? No; we have not had any breakdowns with it, beyond very slight mishaps through the carelessness of the staff, with the pole in one instance. But then it is speedily remedied. I am not aware of the system itself having broken down for some considerable time.

564. I suppose you base your estimate of the working of this electric tram in George-street on the running of electric trams in other countries? I know by the scientific papers, and the data we have of the use of tramways in other countries, they are successful there. I know there is the traffic in George-street to be conveyed.

565. In the paper which the Railway Commissioners submitted about electric trams in other countries, they say that there are a great many more passengers standing up than sitting down, that the cars are always inconveniently crowded;—do you think the passengers would like to have people standing in front of them all the time they are travelling? I do not see any reason why a certain proportion should not stand for a short distance. In many cases I find the public do it for preference. We find instances of that on the Ocean-street line, and at North Shore—on both the cable line and the electric line we find that people frequently prefer to stand on the platform to sitting inside.

566. There are no complaints of that? No; I have never heard complaints of the cable or electric tram being overcrowded. The travelling public regard the electric or cable tram as a tram, but you cannot get them away from the opinion that the steam tram is a railway, and they expect to get a seat.

567. You stated that you had spoken to a number of business people in George-street, and that they are favourable to the introduction of an electric tram;—did you explain to them that it would be necessary to erect overhead wires to carry the power through the street? Invariably in discussing the matter I have explained to these people that there would be overhead wires with central poles.

568. Did they raise any objection to that? Not the least.

569. Have you considered that the overhead wires will possibly affect the telegraph wires which are so thickly suspended along the sides of our streets? I have considered that question. I can only say that

by

J. Kneeshaw, Esq.
25 Mar., 1896.

by reading the scientific papers, I learn that they do not affect telegraph wires in any way. It was so with some of the older systems, but now that modern science has been brought to bear on the question, the overhead wires do not in any way affect either telephone wires or telegraph wires.
570. You do not think there will be any fear of that? I do not think there will be the slightest fear. If there had been, there would have been much greater difficulty in the larger cities on the Continent and in America, where there are many miles of electric traction.
571. How long have you been Superintendent of Tramways? I have been connected with the tramways directly for six months. Previous to that, I was in the Railway service here. I have been connected with railways and tramways for over twenty-two years.
572. A considerable portion of this route is of about the same width, I suppose as King-street? Yes: it is narrow at a very unimportant point just before coming to Bridge-street; but in other parts, as a rule, it is much wider than King-street.
573. I daresay you remember that when it was proposed to run a double line of tramway from the foot of King-street to the top of Ocean-street, there was a great outcry as to how the traffic would suffer? Yes.
574. What has been your experience in that respect;—have the public complained at all? My experience is that the traffic has not suffered at all, and that there have been no complaints since the line has been got into thorough working order; and with this electric tramway I am satisfied that it will be the same.
575. There will be no inconvenience to the traffic in George-street? Not the least.
576. Have there been any accidents since the cable tram began to run up King-street? The accidents with the cable tram have been very few. I have not worked out any figures, but I think I am perfectly safe in saying that the percentage of accidents on the cable tram is far less than on the steam trams.
577. Have there been many accidents of any consequence through colliding with vehicles crossing the streets, or going along the streets? There may have been some such accidents—I cannot call them to mind just now. They always will occur. There have been no special accidents; and the accidents have been very infrequent.
578. Have they been of such a number as to involve the Department in any considerable amount for compensation? Certainly not.
579. Nor has loss of life occurred except in very few instances? The only accident I remember where there was loss of life was in the case of a couple of children through their own want of care in running in front of the tram. They might just as easily have done that in front of a bus.
580. And the case of the old lady who jumped off the car the other day? Yes.
581. Have the Department considered which would be the better system—the underground conduit, or the overhead wire system? I think they have, but that is not a question which has come before me. That has been dealt with by the electrical engineer. I know from the scientific papers I have read that the conduit system is not going ahead at such a rate as the overhead wire system.
582. Can you explain how it is that the 'bus traffic especially to the eastern suburbs has developed so largely during the last year or so? It has developed by reason of the fact that the steam service is not frequent enough, and that the 'buses have cut in between the service. Not only have the 'buses done that, but they have gone into the by-streets, and practically landed the people at their own doors. Had we had a more frequent service originally, and with an opportunity of having by-lines off the main line, the 'buses would not have had a chance to cut in. To give the best service we can with the steam tram, it means a ten-minutes interval up to say Paddington, a twenty-minutes or thirty-minutes interval to Waverley, and the same to Bondi. With electric traction it would be quite possible to give perhaps a two-minutes service to Bondi Junction, and possibly a five or ten-minutes service to Waverley, without in any way increasing the cost as with the present system.
583. Do you not think the lower fare on the 'buses has had a good deal to do with the development of this traffic? No; I do not think it has had such a marked effect upon it. I think it is through being able to run at more frequent intervals. If people are standing on the street waiting for a vehicle to convey them to the city, they will take the first conveyance which comes along. And if two or three 'buses pass between the trams, they will take the 'bus.
584. Do you know whether the 'buses run more frequently than the trams? I am not aware of any instance. As a rule any information I have shows that we have a much more frequent service of 'buses than of trams.
585. That argument would apply during a certain portion of the day; but in the business portion—from 8·30 a.m. to 9·30 a.m., and from 4·30 p.m. to 6 p.m., it would not apply, because the people could go right through in the trams? It applies equally in the morning, because whilst we may have an extra tram or two running in the morning, the 'buses throw their whole weight into that morning service, and they go down a number of streets the trams do not run in, so that they really pick up the people at their own doors. More than that the 'buses run right down into Pitt-street, and land the people near their places of business. That suits a certain class who have a business in Pitt-street; others who have a business at the north end of Phillip-street will perhaps go by the trams, no matter how many 'buses may pass.
586. That will always prevail because it is proposed, I understand, to continue to take the eastern suburban traffic along Elizabeth-street? Yes; but there is no doubt that eventually if we work the whole of the western suburbs, say, from Circular Quay, an arrangement will be made to take a certain portion of the eastern suburban people into the heart of the city. But a more frequent service, I know, will improve the passenger traffic. I found that out only quite recently with regard to some slight modification we made in what we call the through trams; it had a marked effect on the traffic.
587. Is this proposal looked upon as an experiment with electric power? No; I think electricity has gone beyond the stage of experiment. I am quite satisfied that it has been tried thoroughly, and that it will be a success here. It may be only the commencement of a much greater extension of the system, and sooner or later we shall have a lot of Sydney trams worked by electricity.
588. Seeing that it is not yet decided which is the better system—the conduit or the accumulator—do you think it is wise to go in for this expensive system of overhead wires when the whole of the posts and wires will be disused and thrown aside if the accumulator system should be perfected? I do, because I think it is settled beyond all possibility of doubt that the overhead wire system is a success. At the present time the greater portion of the electric traction of the world is carried on by means of the overhead wire. It is very questionable whether the conduit system will ever be so successful. There are even railways being worked now in America at a high speed with the overhead wire. I read only recently that in some instances they were maintaining a speed of 40 miles per hour.
589. Supposing the railway is brought into the city would not that interfere very much with the earning power of this expensive tram-line? I do not think it would have much effect on the George-street line,

J. Kneeshaw, Esq. 25 Mar., 1896.

no matter where the city railway comes into the city. There is still a large local traffic in George-street, which will require some easy means of transit. I quite look forward to the time when we shall have not only a tram in George-street, but also a tram in Pitt-street.

590. How did this proposal come about to run an electric tramway along Harris-street;—is there a great traffic down Harris-street? I do not know how the proposal has originated, but I do know that there is a very large population along Harris-street and down at Ultimo. It is very thickly populated all along the line of route, particularly after passing the Technical College. There is a large number of the working class living right away down at Ultimo.

591. Is it a moving population who will be likely to use this tramway? My recollection is that it is not particularly a business street; that it is a residential suburb. It strikes me that it is a class of community that will pay to use such a line of tramway. Even at the present time, the 'buses are conveying, roughly, 1,500 persons a day from Harris-street.

592. From various parts of Harris-street into the city? Yes; that is the Pyrmont 'buses only.

593. *Mr. Wright.*] Would it pay the tramway to take that number? No; not to take that number alone. I say the 'buses are bringing that number into the city without taking into account any intermediate traffic between Regent-street and Ultimo.

594. *Mr. Trickett.*] Have you put down the number likely to be carried between Harris-street and Ultimo? I made an allowance. I consider we shall carry over and above what the 'buses are bringing, roughly speaking, 1,000 people a day between Regent-street and Pyrmont.

595. Would 2,500 passengers a day provide sufficient remuneration to justify the construction of this tramway? Yes; that would make it pay, assuming that the tram also gets a certain portion of the city traffic, and gives a better service in the city.

596. Are you going to treat it as part of a whole line from Sydney right round to Ultimo, or only as a branch line? We should treat it as a whole line. We should run trams right through.

597. You do not generally do that with branch lines? It would do much better work to treat it as a whole and run the trams right through.

598. You did not treat the Woollahra line in that way? It was treated in that way for a certain time, and eventually it was found not to pay. They ran a local tram, and that paid worse still.

599. You think the traffic you have estimated to get will be sufficient to pay the interest and working expenses? Yes; I estimate that it will pay from 12 to 13 per cent. profit.

600. I suppose that profit will be gained, assuming that all the 'buses are knocked off? No; because I have carefully left out of my estimate a very large proportion of the passenger traffic which I know the 'buses are carrying, so as not to be too sanguine.

601. You will have the 'buses to contend with the same as the other trams have, and directly you run a tram along Harris-street, I suppose the 'buses will run along parallel streets in order to get the passengers? Yes; but they cannot get such a chance of competing with the electric tram in Harris-street, because there is not such a number of parallel streets to run down.

602. *Mr. Davies.*] Did I understand you to state that the cost of the electric tram in George-street would be 9¼d. per tram mile, and that the cost of the cable line to Ocean-street is 10¾d. per tram mile? Yes.

603. You have no grades in George-street equal to the grades in the Ocean-street line? No.

604. The traction is much more expensive on the Ocean-street line than it would be on the other line? The grades do not make much difference on the cable line as far as the expense is concerned.

605. Considering that you have already proved the cable system on the Ocean-street line, and that it costs you only about 1½d. more per tram mile than it will cost you to run this electric tram in a very narrow street, would it not be better to stick to that which you know will be a certainty, and be attended with no objectionable features, such as overhead wires and posts? 1½d. per tram mile, taking 730,000 tram miles per annum, will make a marked difference. I think the difference is so great as to warrant the use of electricity in preference to the cable.

606. One is a reality, but the other is an assumption;—you have no proof of what the electric system will cost? We have the proof of what they can do in other countries. We know that there they can work electricity at a certain cost, and we know that we can do as well as they can.

607. You have tried electricity here, and it has not proved such a success? Yes; but it was introduced here several years ago. It was not a success at that time, but with the aid of modern science it is greatly improved.

608. Was the electric tram you had between Waverley and Randwick a financial success? No.

609. Was it not run at a very great loss? It was run at a loss there. It is run at a loss even at the present time. But what I wished to convey was that the electrical appliances used on that line were very out of date, and much more expensive to work relatively than the electric appliances that can be introduced at the present time.

610. Briefly, there is an improvement in electricity for the purpose of traction? A very decided difference within the last two or three years.

611. The George-street line will be similar to the North Shore line? The line at North Shore is the one we had at Waverley, with the old appliances.

612. In the case of George-street, how far apart will the posts be? Every 120 feet I understand.

613. Supposing a fire were to break out in a large five or six storey building in George-street, would it not break the circuit and stop the whole traction? No. As far as I understand it will not prevent the whole traction; it will only prevent it between certain points on either side of the fire. The same stoppage would occur now with a steam or cable tram if the firemen had to take their hoses across the track.

614. *Mr. Wright.*] You have short breaks in the circuit? Yes.

615. *Mr. Davies.*] Do you think it desirable in a narrow street like George-street to erect pillars to carry overhead wires? I believe the public will be quite satisfied with them, and that they will consider the posts ornaments.

616. You do not remember the great quantity of frieze work and posts put up by the Telegraph Department in George-street at a cost of thousands of pounds, which had to be removed? I do not remember that.

617. As the difference is so small between the cost of the cable system and the cost of the electric system, according to your own estimate, do you think it is preferable to adopt the electric system in George-street? I do.

J. Kneeshaw, Esq. 25 Mar., 1896.

618. Would it not be wiser to adopt the conduit system rather than the overhead system in that narrow street? I can hardly answer for the conduit system. It is a question for the electrical engineer to answer. I can only tell you what opinions I have formed from reading scientific papers. I think that whilst the conduit system may be very successful under certain conditions, as a rule, it is not so successful as the overhead wire system which has been tried, and proved to be absolutely successful now that we have improved appliances.
619. Can you point to one case where the conduit system has been a failure? No, not at this moment; but I have read of instances recently in which it has not proved a success. I cannot call them to mind just at this moment.
620. Where did the case you refer to occur? It was one case in an American town. I read about it in the *Street Railway Road Journal*, I believe.
621. You are aware that even your own little electric tram at North Shore has broke down several times? That is very likely.
622. And that the cars had to be drawn by horses? Yes; it is what might be termed a very old-fashioned plant now.
623. What difference will there be between the plant for this new scheme and the plant at North Shore? I cannot tell you the difference, but I know that there have been most decided improvements made in electric appliances within the last two or three years, and that the means of connecting the rails with special bonds and other improvements in the electrical machinery, have put it beyond all doubt and experiment.
624. You estimate the return from the railway tram service at £33,000 per annum; do the earnings of the steam trams to the railway station approach anything near £30,000? The earnings on the railway trams at the present time are roughly £18,000 gross per annum.
625. You expect to get double that return on this electric tram line to the Circular Quay? I think it is a very reasonable estimate.
626. If you have a tram service between the Railway Station and Bridge-street, returning £18,000 a year, how are you going to double that return by constructing an electric tramway? Because at the present time there is a tremendous lot of traffic which goes away from the Railway Station in 'buses, which never goes near the tram at all.
627. Would not a large proportion of that traffic still go away in 'buses? No; the railway traffic would not go in the 'buses at all if there was a quick service of electric trams starting from the very station.
628. Supposing the electric tram were constructed to the Railway Station, would it be necessary to extend the railway in order to carry passengers into the city? I do not know that it would be necessary. It may be that eventually the city railway will be extended to the city, but I am still of opinion that we would earn good interest on the electric tram in George-street, that there will always be a certain number of passengers who will alight at the present Railway Station; and, in addition to that, there is a very large local traffic to be done in George-street.
629. Seeing that you depend absolutely upon the local traffic to get your return of £32,000, would it be necessary to extend the railway into the city? I do not know that it would be necessary to construct the city railway.
630. If you have the tram service it would not be necessary to construct the city railway? I do not think it would be.
631. You believe the electric tram would serve all the purposes of a city railway? Yes.
632. You evidently do that because you base your calculation upon getting the whole of your income pretty well from the railway traffic? That is so.
633. *Mr. Lee.*] How many passengers do you estimate these cars will carry? I am assured that they will carry from fifty to sixty passengers each.
634. It is to be a two-minutes service? Yes; it will be more frequent probably at certain portions of the day, and it may be less frequent perhaps in the early morning and in the evening. Roughly speaking it is to be a two-minutes service.
635. To keep up that service you will require to have a very large equipment of cars? No. A round trip will be done in, I should say, from thirty to thirty-two minutes. That would mean only from sixteen to seventeen sets of cars at work—that is, one car and one motor car to form a tram.
636. You would not have more than two vehicles on a tram for a quick service? We do not want to put large trains, we want quick loading—a quick entry and a quick exit.
637. If necessary the system could be run with a two-minutes service? Without any difficulty at all.
638. I presume you will admit that to run any service requires a wonderful amount of care and organisation? Yes; but, of course, we shall have power-brakes, and light trains will be much more easily handled than the heavy steam trams. We run down here very often—I might say a quarter-minute service.
639. You will not pretend to say that it will be an over-calculation to estimate that the service will have to run every two minutes? I do not think it is an over calculation. We should start a tram from the termini every two minutes if that time is determined upon.
640. You stated that your steam trams are street railways running to a time-table service, and carrying upwards of 300 passengers? No; we never carry as many as 300 passengers, unless there is a great crowd coming away from the cricket ground.
641. You run occasionally three cars from the Railway Station;—how many passengers do they hold? The seating capacity is 210.
642. Is not the inward traffic by train very great indeed from 8 a.m. till about 9·30 a.m.? It is very heavy between those hours.
643. You frequently run three tram-cars at a time to accomodate the traffic? Yes.
644. How are you going to move that traffic in cars carrying only fifty passengers at a time? As I explained, there would be one trail car and one motor on each tram. We should start two or more trams, as the traffic required it.
645. But you have stated that it will be a two-minutes service? I explained that we would run the cars more frequently at certain hours, and less frequently during other portions of the day.
646. But you could not possibly have a perfect stream of cars, one on top of the other, right down the street. There must be some little interval of time between the running of the cars? Yes; an interval

of

J. Kneeshaw, Esq. 25 Mar., 1896.

of thirty seconds would be as much as we would require, seeing that it was a very exceptional case. It is only about three trains that arrive that will overfill more than one tram, and when they do we can start another tram in thirty seconds. That will be far better despatch than they are getting from the steam trams. We frequently keep a tram waiting for one, two, or three incoming trains, because we cannot have a more frequent tram service. We keep people who arrive by the first train back two or three minutes at times, until some other train comes in.

647. Have you considered that point? I have.

648. Do you consider it an important point in connection with the investigation? I do not see that there is any difficulty in overcoming it.

649. You are satisfied that it can be overcome? Perfectly.

650. You are satisfied that the service will carry the inward traffic without any doubt? Yes; I went into the matter very carefully when I was first informed as to what number of passengers would be conveyed on each electric tram.

651. The same inconvenience would not be likely to apply to the outward traffic? No; not to such an extent. If it came on a heavy shower of rain we might sometimes have a rush in the evening, but experience would soon teach us between certain hours to run down a few extra trams over and above the ordinary service—that is, between 8 a.m. and 9·30 a.m., and between 4 p.m. and 6 p.m. After 8 o'clock you would not want such a frequent service. You would probably want a rush of trams to meet the theatre-goers.

652. I suppose your trams run about eighteen hours a day—from 6 a.m. to midnight? Some of them start at 5 a.m.

653. You have to carry on an average 800 hundred passengers an hour to make up your estimate for the year? Roughly speaking, from 800 to 900 per hour.

654. That in itself would require a very frequent service? We could do it with a four-minutes service, and that is only half what is proposed.

655. You have told the Committee that it is the intention of the Commissioners to abandon the railway trams? Perhaps I should not have conveyed a definite expression that the railway trams would be abandoned. I believe myself that they will be abandoned. The matter has not been thoroughly discussed, nor have the Commissioners given any instructions. My impression, as tramway superintendent, is that steam trams to and from the railway station will be abandoned, and that there will not be sufficient traffic to warrant their being run.

656. Will you be prepared, after consultation with the Commissioners, to state definitely whether that is their intention or not, because it is a point of very great importance to this inquiry? I would say this now, that we should probably continue to run certain through trams in the morning and in the evening, but during the day the service would almost cease to exist, seeing that the trams from the western suburbs would more than meet all the requirements of railway passengers.

657. You stated that the earnings on the railway steam trams are £18,000 a year roughly, and you propose to get £32,000 a year by abandoning the steam trams to the railway, and confining the railway traffic to George-street. To obtain that result it will cost for construction alone £123,000; or in other words it will require an outlay of £123,000 to earn £14,000? Yes; but then there will be a very marked saving in the working of the railway steam line. The motors and cars that are saved on line will be diverted to the other lines, and utilised there.

658. I want to elicit whether the Commissioners are desirous of abandoning the existing line of transit to the railway station for the purpose of putting another line in its place? We are not abandoning it altogether, because there are a large number of trams in the western suburbs which are quite capable of doing more work. That will meet the requirements of railway passengers who want to come along Elizabeth-street. We shall save £9,000 a year by taking off the steam motors from the present railway service.

659. That is in maintenance and working? Yes.

660. But supposing the present system were converted into an overhead electric system, would not that meet the requirements of the travelling public? No; it would not meet the requirements of thousands of persons who every morning walk from the railway station along George-street, and who would be conveyed by an electric tram running down that street.

661. In other words, the Commissioners, in addition to proposing a saving of £9,000, and relieving Elizabeth-street of the railway traffic, consider it necessary, for the proper convenience of the public, that some system of tramway should be built in George-street? That is correct. I would like to put the case in another way. On the return traffic from the Circular Quay there are thousands of persons landing from the harbour boats who will not walk up the steep grade to take a tram at Bent-street, but who take other means to go down, or walk down to the more level parts of the city. There is a very large traffic to be obtained from the steamers. Then, again, every Monday very large crowds congregate on Circular Quay to see the mail steamers depart.

662. What fare have you based your calculation upon as regards the railway station? A through fare of 2d.

663. Supposing you are met with an opposition with a 1d. fare? Even then I am still satisfied that if that had to be met there would be a very large return for interest. With the existing rates I calculate that the interest would be 13 per cent., and if the fare were reduced one-half it would still give us 6½ per cent. It is quite possible that the section might be divided. The Commissioners might decide to do that later on.

664. You do not fear any opposition at a reduced rate? No.

665. You regard the electric tram service as one which will be so superior, and so convenient to the public that they will use it? Yes.

666. And in sufficient numbers to give a large return? To make it pay well.

667. Supposing an electric tram is not laid down in George-street, will not the steam tramway be sufficient to carry all the traffic to the railway for very many years to come? No; the facilities are more than taxed to their utmost. You cannot give as satisfactory a service as you desire owing to the great glut of traffic in the street. A minor accident in the street opposite to this building for two or two and a half minutes in the morning will block the trams right away back to Market-street.

668. That will continue to be the case even if you have an electric tram in George-street? No; because we shall divert a certain amount of the traffic.

669.

J. Kneeshaw, Esq. 25 Mar., 1896.

669. How many trams a day will you take off? Ninety-five each way; 190 in all.
670. You run 1,200 trams a day, so that the relief you give will be very small in proportion to the amount of traffic you do? But if electric traction is once introduced into George-street, there is very little doubt that it will soon grow and be extended.
671. Why not adopt it at once for the whole service, and get rid of this costly tram in George-street? In any case, we would still want a second terminus in the city, for with one terminus there is not sufficient room to work the traffic.
672. You reiterate that, notwithstanding what may be done to the existing route, there must be an additional route provided? We want another outlet. We cannot work the traffic as we are.
673. That is the ground you take up? I take it up very strongly, having to work the traffic.
674. No matter what may transpire in regard to the existing line in Elizabeth-street, you must have another outlet? Yes.
675. And the best thing which can be recommended is an electric tram in George-street? Yes.
676. As being preferable to the city railway? I think so. It is far less costly, it is far easier, and far cheaper to work.
677. If a general system of electric trams is carried out, do you consider that the city railway will not be necessary? I do not say that there will be no necessity for a city railway if we have a general system of electric trams. I do not see that there will be any necessity for it at present.
678. Have you considered that that means that the goods traffic will have to be conveyed on vehicles through the city for all time to come? I have not considered it very thoroughly at all. The only point of view from which I have considered it is, that even if the railway were brought into the city, we would still have a sufficiently large traffic in George-street to make that line pay well.
679. *Mr. Clarke.*] Are you aware what it will cost to form and work an electric tram from Redfern to Harris-street? No. I only know approximately what the cost of a through line would be.
680. It has been stated here that the Harris-street portion of the line will cost £30,000. If it will cost that amount, would the traffic from the Railway Station to Harris-street be sufficient to enable it to pay 10 per cent. on that sum? I have not worked out any figures on that basis. I have always assumed that we would run the trams direct from Circular Quay to Harris-street. I have looked upon these trams as giving a useful service to the city.
681. Do you think there is a sufficient number of passengers to justify the formation of that portion of the line? I do; because it is a thickly-populated locality. I have driven and walked over the locality many times.
682. Would not a large proportion of the traffic from the eastern side of Darling Harbour as far as Pyrmont utilise the ferries or the bridge instead of the trams? People do not care to use the Pyrmont Bridge, particularly foot passengers, because there is always a risk of being blocked. They would take the electric tram to run them down to their destination.
683. Would not a certain number of the working class that reside on that part of the Ultimo estate, prefer to walk rather than to pay 1d. or 2d. to ride? I do not think so, because even with a through fare of 2d., if they travel during workmen's hours, they would travel at the workmen's fare of 1d. I believe we would get them.
684. Would not this tram-line compete with the steam trams? No; it would not come into competition with the steam trams, except the railway trams, which would, most probably, be taken off, and allow a saving of £9,000 to be made. This saving I have not taken into account in connection with the working expenses of the electric tram.
685. Would not a great number of steam trams be run along Elizabeth-street to the Glebe, to Leichhardt, and to Botany? They will be run until such time as a general electric system for the western suburbs is an accomplished fact.
686. Would not the passengers which these trams would take interfere with the earnings of the electric tram? I do not think so. The electric tram would turn off at Regent-street, and the steam trams other than the railway tram, do not take up many passengers either at Regent-street or in George-street. After that point the two lines diverge.
687. It is proposed to continue running the steam trams to the eastern suburbs? Yes.
688. Would not the large number of passengers who go along Elizabeth-street in the steam trams to the eastward interfere with the earnings of the electric line? No; because in making my estimate of the passenger traffic to the Railway Station I have not included all the traffic. I have included only 75 per cent. of the existing railway traffic.
689. You are aware that there is a considerable 'bus traffic to Redfern station along George-street, as well as to all the suburbs, particularly the eastern suburbs? I have taken the 'bus traffic into consideration. It is on the account I had of that 'bus traffic that I formed my estimate.
690. Are you aware that the 'bus fare from Sydney to Randwick is 3d. and to Coogee 4d., while the tram-fare from Sydney to Coogee is 5d.? That is very likely.
691. Do you think that the electric tram in George-street will do away with the 'buses altogether? Not altogether, but it must reduce the number to a very great extent.
692. You think that the electric cars will be so convenient, and the service so frequent, that it will very likely be the means of stopping the 'buses to a certain extent? To a certain extent it will, because the electric trams will be far more popular. It will not do away with them altogether. It will absorb probably more labour than there is at present employed on the 'buses.
693. I think you stated that if an electric tramway were laid to Harris-street there would not be such a great necessity to extend the railway to Circular Quay? As I said later I had not given the question of the city railway extension so much consideration, except from this point of view, that if the city railway were made I still considered that the electric tram down George-street would earn good interest.
694. Presuming that a railway is made to Circular Quay at some time or other from Redfern, would the passengers who come from the suburbs along the railway line care to get out of the train at Redfern, and take the electric tram in George-street;—would they not prefer to go right on to the terminus? Perhaps so. At the same time there must always be an enormous local traffic in George-street that will make this tramway pay.
695. You think that the city railway extension, if it is carried out, will not interfere, to any great extent, with the George-street traffic? Not to any great extent.

J. Kneeshaw, Esq. 25 Mar., 1896.

696. *Mr. Hassall.*] In framing your estimate you depend more on the local traffic than on the suburban traffic? I depend very largely on the local traffic in George-street—that is to say, on the intermediate traffic.

697. Therefore, the argument that the railway passengers would not be likely to use this tramway would not affect your calculation to any great extent? I do not think so.

698. *Mr. Wright.*] I suppose you are not an electrician? No.

699. What experience did you have of the working of tramways before you assumed your present position? I have not had any great experience in the working of tramways except in New Zealand, where I had to inspect them on several occasions for the Railway Commissioners. I have seen a number of tramways worked in nearly all the towns of New Zealand.

700. Was your railway experience gained in New Zealand? In New Zealand and in the colonies.

701. In reply to Mr. Hassall, you said that your calculation of the George-street traffic was based on the local traffic primarily, assisted by the present railway traffic? The local traffic was taken very largely into consideration in making my calculation.

702. Where did you get your data from of your local traffic, or how did you get it? By stationing men at various corners, counting the passengers in the 'buses, and watching them alight, and forming estimates of the passengers that only travelled for a certain distance.

703. I assume that you had a man at the corner of King-street;—supposing a 'bus were coming in with twenty passengers, was he capable of discerning what number of the passengers was picked up in George-street, and what number was carried in from the suburbs? He could get a very fair estimate. I had another means of making an estimate. If, on the Ocean-street line, where we have a comparatively thin population, as compared with the traffic in George-street and Harris-street, we can get 4,000,000 passengers per annum, and with only about the same length of line, we can fairly expect 7,300,000 passengers in George-street.

704. The eastern suburbs—Rushcutter's Bay, Darling Point, and Potts' Point—are sites worth seeing in Sydney, and is it not quite possible that a great proportion of your passengers are mere casual visitors? No; not to that extent. The passengers travelling on that line are residents.

705. Do you not think that almost every man or every person that visits Sydney makes it a point to go out as far as Darling Point to see that aristocratic suburb and its beautiful buildings? That is not my experience. My experience is that when people come to Sydney, as a rule they go down the harbour.

706. You stated to Mr. Lee that the 'bus traffic along Harris-street is about 1,500 passengers per day;—do you expect to increase that traffic with the electric tram to 2,500 passengers per day? Yes; because I take it that we would most probably have a section.

707. You expect that traffic to be very nearly doubled by virtue of the introduction of the electric tram? We do.

708. Do you expect to knock off the 'buses coming in from Balmain, Drummoyne, and Ryde, and to acquire all that traffic? They would probably not knock off coming from Drummoyne and Ryde.

709. You would still have to meet the competition from the local traffic in Harris-street? I do not look upon it as competition. I am perfectly satisfied that with a quick service passengers will travel by the electric trams.

710. You stated that a great number of persons walk from the railway station in preference to riding? Considerably more persons walk from the station than go in the 'buses and trams.

711. Is it not a fact that the great majority of these passengers are gentlemen who, following sedentary occupations, walk down from the station for the sake of the exercise, and that no matter what conveniences you may provide, hundreds of persons will still walk to and from the station? I do not think so. Even in wet weather these people walk.

712. They walk because their business takes them down George-street;—do not you think that a number of these persons walk for the sake of getting a constitutional? A few do, but they are not a large number, all things considered.

713. Notwithstanding the fact that the steam trams running along Elizabeth-street will drop the people at every cross street, and that a line of well-appointed 'buses will run along George-street, you think that if an electric tram were laid down in George-street the greater proportion of these people would ride down George-street in that tram? Not the greater proportion, but a much larger proportion than there is now. If we got the great proportion it would pay much better than I have estimated.

714. Supposing that the present steam service to the railway is done away with, and that this electric tram is laid down, your annual returns will be reduced on the one hand by the earnings on the steam service to the railway, and reduced on the other hand by the expenditure on that service? It may be that the returns from the steam tramways would show a slight reduction by the diversion of the railway passengers to the electric trams.

715. You would lose all the profit you now make on the railway trams? Yes.

716. You told Mr. Lee that the electric cars would carry about fifty passengers each;—what staff would you attach to each car? A motor-driver and a conductor.

717. As you propose to give a two-minutes service as against a ten-minutes service, can you state what the cost in wages would be with the new system as against the cost with the present system? I could not answer the question right away.

718. Am I right in assuming that it would be necessary to employ a much larger number of men with a two-minutes service? Yes.

719. Consequently, your expenses would be correspondingly increased? We would want to employ a much larger number of men for this frequent service, and allowance has been made for that in the estimate.

720. After making these allowances for the increased staff, you still think that the line will return 12 per cent.? Thirteen per cent. on £123,000.

721. The Commissioners propose an additional expenditure of £7,000 in order to take the line along Circular Quay? That would reduce my estimate to 12 per cent.

722. Have you spent many years in making estimates of this kind? Yes; I have had a good deal to do with them at various times.

723. I presume you consider yourself competent to form a fair approximate estimate? I do. I have given a lot of study to this question.

J. Kneeshaw, Esq.
25 Mar., 1896.

724. Do you think that in a narrow street like George-street, at some points only 36 feet wide, a double line of electric trams, with possibly a double line of vehicles on either side of the street, unloading or loading goods, will not offer very serious impediment to the traffic; in fact, block the traffic altogether? No. I consider that the traffic will be much more easily conducted with electric traction in the street, and a certain reduction in the number of 'buses, than it is now.
725. Have you estimated what percentage of the vehicular traffic would be saved in George-street by the introduction of the electric tramway? No.
726. Take the 'buses alone? I have not worked that out.
727. I find that there are as many as 186 'buses plying in George-street independent of the railway 'buses? I made the number 171.
728. These 'buses will all continue to run, I suppose? They will only continue to run for a time, because eventually as the electric system is extended people will get on the electric tram here, and be taken through to the western suburbs.
729. Do you think that men living at Newtown, St. Peter's, Arncliffe, or Marrickville, while they can ride to Sydney in a 'bus for 3d., will get off the 'bus at the railway station, and pay you 2d. to run them down George-street in your electric tram? It will probably enable the Railway Commissioners to completely revise and reduce the present tram fares by bringing in a more economical system of traction.
730. I assume, as both you and Mr. McLachlan have stated, that the fare on the George-street tram will be 2d.; in view of that fact, do you think it is likely that men who can travel by 'bus a distance of 7 miles to the Circular Quay for 3d. will get off their 'bus at Redfern and pay you 2d. to carry them down George-street? Perhaps not in the way you put it. At the present time we will not get the whole proportion.
731. Therefore, the whole of these 171 'buses will continue to run along George-street? Not the whole of them. Some of them will cease to run.
732. The 'buses ran you off the Woollahra line—they are gradually running you off every tram-line in the suburbs? I am afraid they will continue to do so as long as we have steam trams.
733. What chance is there of the number of the 'buses in George-street being reduced while that steam service to the suburbs continues to exist? I think that the number will be reduced. I think that a large number of persons will take the electric tram along to Regent-street. It may lead to a total revision of 'bus routes. Passengers will go down on the electric tram, because they like it. The 'buses may probably start from Regent-street instead of from Circular Quay.
734. In answer to my question whether there was any reasonable hope of your being able to knock off the 'bus competition in the suburbs, you said, "No, as long as you had the steam trams"? Not so much in the suburbs; but we shall compete against the 'buses in the city.
735. From St. Peters you have not only a tram service, but a railway service; but, nevertheless, the 'buses from that place are competing—and multiplying in number—with your trams;—in view of the fact that these 'buses bring persons to Circular Quay for less than what you charge either by rail or tram, almost more quickly than by tram, and almost as quickly as by rail, do you think that these passengers will get off the 'buses at Redfern Station and pay you 2d. to carry them along George-street? No, not from those far distant suburbs.
736. Then I do not see how you are going to very largely diminish the 'bus traffic unless by knocking off the railway 'buses? We will knock off the railway 'buses. Some of the others must come off. And when we have electric traction down George-street, the question of fares will most certainly be considered, and probably by some simple arrangement of an overlapping section between Regent-street and Newtown Road junction we can meet the whole difficulty as regards the 'bus fares, and enter into a successful competition.
737. If such a thing is probable, would it not be advisable to put this Committee in possession of the facts by pointing out, as one inducement, why we should consent to this proposal, that you intend to relieve the streets of the enormous amount of traffic? I am fully of opinion that we shall relieve the streets of a large proportion of the 'bus traffic. It may not be in the first month or two; but eventually the 'bus traffic will be taken out of George-street. It will be very greatly reduced.
738. Will you furnish the Committee with a return of the number of drivers, firemen, and conductors employed in the steam service to the Railway station, and the number you contemplate employing in the electric service to the Railway station? I will.
739. Who is responsible for the construction of the electric tram at North Shore and the accumulator car that was run? Mr. Downe has charge of the power-house, but Mr. Elwell is the engineer in charge of the electric portion of the plant.
740. I suppose the whole of the work was done under his supervision and direction? I think it was.
741. Was he the constructor of the accumulator car that was run? Yes.
742. What was your experience of that car? I did not see much of its running. My experience was that it was too heavy, and it did not give such good results as might be anticipated. It was an experiment.
743. Mr. Lee elicited that 210 railway passengers at times wanted to be conveyed in one tram from the railway station, and that to convey this number you require to use three steam tram cars, but that an electric car will only carry from fifty to sixty passengers, and in answer to that objection I understood you to say that in that case you would have to break the two-minutes service and run two or three cars together;—is that the answer you gave? Yes; in this way—that the greatest load we can take from the railway station under existing circumstances with a steam tram is three cars, equal to carry 210 passengers, and that with the electric tram we can take a motor car and a trail car, equal to from 110 to 120 passengers. We can run two of these at an interval of fifteen or twenty seconds.
744. How are you going to provide for taking the cars into the station every half minute;—will not that necessarily disarrange your whole service at once? No.
745. If you propose to run a two-minutes service from one end, how can you possibly arrange to run a fifteen-seconds service from the other? Because, as the railway station is a terminus I can keep two or more trams standing there to be worked into a special service if I want them. I should be prepared to meet the busy traffic. I would have a reserve of cars at either end.
746. I presume that whenever you introduce a fifteen-seconds service from the railway station these cars will be cut off at the Circular Quay? We will shunt them at Circular Quay.

747.

J. Kneeshaw, Esq. 25 Mar., 1896.

747. Can you explain why it is that Sydney is the only city in the world with an expensive system of tramway service, in the hands of one firm, which cannot successfully compete with the 'buses? Because we have an expensive system of street railways, which do not meet the more modern requirements, because these street railways are not run down into the best streets of the city; because, as they are street railways, we cannot give that frequency of service which the public require; and again, it is due to the contour of the city of Sydney.

748. The service to the railway station is a ten-minutes service? It is not an even ten-minutes service. The trams run to connect with certain trains. At times we may run a five-minutes service, and at other times it may be a fifteen-minutes or ten-minutes service. We run to connect with all the principal trains.

749. With a tram service running to meet all the principal trains, and with a steam tram running past the Railway Station to Redfern, Leichhardt, Newtown, Glebe, Balmain and Forest Lodge; in view of that extraordinary amount of traffic, how is it that thirty-four 'buses can be successfully employed in running to and from the Railway? Because these 'buses bring their passengers from George-street, where the greatest bulk of the passenger traffic has to come from, and because our trams are run down Elizabeth-street, where there is really no business house or population on one side of the street—nothing but a park.

750. That is a good reason, but it must be remembered that a great number of the passengers do not do business in George-street. It is now almost a retail street. The commercial houses are nearer your tram service than in George-street. The great wool houses and the Government offices, in which a great staff of clerks and other people are employed, and the great proportion of the banks are quite as near your tram service as George-street. Nearly all the legal fraternity, who must number some hundreds, are much nearer your steam service? It must be remembered that to get on to the steam tram all the people you refer to have to walk up hill, but when they go into George-street they go down hill. That is one inducement for them to go into George-street; and frequently, when people leave their offices, they want to go into the principal street in the city to do some shopping, and there they find themselves alongside the 'buses, which they take.

THURSDAY, 26 *MARCH*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. JOHN DAVIES, C.M.G.	CHARLES ALFRED LEE, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from the Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street, to the intersection of John-street.

John Musson, Esq., civil engineer, sworn, and examined:—

J. Musson, Esq. 26 Mar., 1896.

751. *Vice-Chairman.*] You are a civil engineer, and you desire to make a statement to the Committee in connection with the proposed electric tramway from Circular Quay to Harris-street via George-street? I wish to submit a statement relative to the route proposed for the electric tram lines:—

I venture to state that the Commissioners have not given sufficient consideration to the heavy traffic, which will be heavier in the future in the neighbourhood of the Exchange, which includes the large shipping and mercantile offices and the Government Departments. All the 'buses from the eastern suburbs and down Pitt-street pass through this locality, as well as the greater portion of the ferry passengers, and being the shortest route, this traffic will continue.

Possibly wanting the above information the Construction Branch of the Railways have proposed the longer route via Lower George-street to Circular Quay, which certainly will not benefit the locality referred to, and the traffic therefrom will be lost to the Department. The public will be inconvenienced. Considering the good roads in the city, and cheap fodder, the 'buses successfully compete with the trams.

The route I suggested is the shortest and most direct route and, a very important consideration, it can easily and economically be connected with the existing tram-line, and form a circle railway, and it will also connect the present line with Circular Quay. Wanting that facility now is no doubt a very heavy loss to the Department, as the 'buses discharge their passengers within a few paces of the steamers from the furthest suburbs for 2d. fare.

The very able and exhaustive report of Mr. Engineer Deane, gathered from personal observation in Europe and America, is of great value to New South Wales.

The route I propose is to leave George-street at Bridge-street (instead of Lower George-street), and thence down Bridge-street to and over Macquarie-place to Circular Quay, moving round a circle at Circular Quay, without any shunting on the return journey. This route is about 10 chains shorter than that proposed by the Department.

I also suggest that this line should connect, via Bridge-street, with the existing steam-motor line at corner of Phillip and Bridge Streets. It may be necessary to take a small slice of the vacant ground at that corner, which is Government property. The line could also shunt off into the motor-yard. The grade is a little heavy. The elevation above high-water line is about 55 feet. This extension would enable the present trams to go to Circular Quay, via Macquarie-place. There are no engineering difficulties in the way. It would also enable the proposed electric line during construction to be worked by steam motor, and when completed in case of emergency.

An alternate route from Macquarie-place to Phillip-street would be via Bent-street, taking a slice of the Educational Department ground, and possibly a small slice of the Union Club ground. The elevation here is about 75 feet above high-water line. The distance from Macquarie-place, via Bridge-street, is about 10 or 12 chains, which is about the distance saved if my route is adopted from George-street.

Should your Committee approve, the Department might think proper to reconsider the entire route to Miller's Point, and instead of going via Dawes' Point, adopt a Kent-street route, leaving George-street at and proceeding up Charlotte-place (if the grade permits) or to run into and along Clarence-street to King-street, thus capturing the Darling Harbour and ferry traffic.

In adopting the Kent-street route, the Department might receive the coke they use direct from the Gas-works, and convey it in their own tip-trucks to the different tram yards. I think the saving would be considerable. Coke could also be conveyed in both cases by night as freight to the distant suburbs.

Another and important item would be the carriage of the wool by tram from Darling Harbour to Circular Quay at early morning or night. For that purpose a branch line from the George-street line could be taken to Darling Harbour.

I forgot to mention that in adopting the route I propose, ferry passengers to North Shore could be secured, provided the tram fare was 1d.

The saving in working expenses would be considerable. The proposed route is marked on dotted line on the map.

A new tram-yard could be found—possibly the reserve in Macquarie-place. The ground now used for that purpose would in value, I think, pay for resumed land in Hunter and Bligh Streets.

J. Musson, Esq.
26 Mar., 1896.

752. *Mr. Davies.*] Do you desire to supplement your statement? I think not.
753. You have put your whole case in the statement? Pretty well; it requires some explanation.
754. The only difference of opinion between yourself and the Department is the deviation from George-street, via Bridge-street to Macquarie-place, following the route of the 'buses? As far as the plan shows, I think that is all, except any further extensions I suggest going up Charlotte-place, via Kent-street to Miller's Point.
755. That is not included in your present proposal? No.
756. Do you propose to use the accumulator system or the overhead system for this scheme? I did not touch at all on the working of the system.
757. But you are competent to express an opinion upon that point? The overhead system is, in my opinion, the best system.
758. As it is suggested by the Department? I have carefully read Mr. Deane's report, and I have read many other papers on the subject, and I am certainly of that opinion. It is the most favoured system throughout the world.
759. Do you know of any case where the accumulator system has failed, where it has been used as a motive-power for a tramway? I cannot recollect any particular case. The fact is that I adopted the system as proposed.
760. And the only change you would suggest in the Departmental system is the deviation, and that it should be so constructed as to enable you to have a sort of circular tram? Yes.
761. With a circular tram service taking in the steam as well as the electric tram? Yes.
762. The traction would be over the same rails by the same route as the electric tram? Yes; but in the event of anything happening to the electric line everything is stopped, whereas you can put a steam motor on the line at once.
763. Do you think it is desirable to have overhead wires erected on poles in a narrow street like George-street? I do not see how it can be avoided, unless by means of an elevated tram road.
764. Would not the accumulator system dispense with the necessity for that? I do not think it is as good as the electrical overhead system.
765. Would not the accumulator system provide a fair service free from obstruction to vehicular traffic? The general opinion is in favour of the overhead system.
766. And that is your opinion? Yes; I have had no practical experience of the working of electric trams.
767. The only change you would suggest would be the deviation you indicate on this tracing? Yes; and the extension of the existing line from Phillip-street down Bridge-street. That would enable the existing line to get to Circular Quay, which is a very great consideration.
768. Practically, that covers the whole of your representation? Yes.
769. *Mr. Hassall.*] I believe you gave evidence with reference to the proposal to construct a cable tramway down George-street? I proposed an elevated road worked by any system.
770. I believe you suggested some deviation of the route into York-street and down to Charlotte-place? I really forget. It was the elevated road I suggested then. I am still very much in favour of having an elevated tram in crowded parts.
771. But on that occasion you thought it would be better to take the tramway over the market reserve to York-street, and run along that street into Wynyard-square and Charlotte-place? Yes; the idea was to avoid the narrow and busy part of George-street, if I recollect aright.
772. On this occasion you suggest going down George-street and getting away up towards Elizabeth-street? That is the Departmental plan. I only suggest a deviation at Bridge-street. I did not suggest the George-street plan, but I do not think you can have a better plan running down than the one running down George-street.
773. I suppose you are aware that the intention is to lay down a double line, and to confine the whole of the system to one street as much as practicable? Yes. It appears to work so very satisfactorily in King-street that the theoretical objections I expressed before are to a great extent removed. And Mr. Deane's report as to the electrical overhead system is very satisfactory.
774. Your only object in coming here to-day is to point out that, in your opinion, instead of going right down George-street, it would be better to deviate through Bridge-street and Macquarie-place on to Circular Quay? Yes; and to extend a line to join the existing line.
775. What benefit would that be? It would enable the existing line to take passengers down to Circular Quay, which is a very great consideration. As regards the suburbs, I may speak on behalf of my own family. Whenever they want to take an outing on the water they take an omnibus, although we are close to the tram.
776. A tramway down George-street to Circular Quay would obviate all that difficulty? Yes; but still you want it from two points to do that. You have two lines, and both might do it. Again, if this line connects with the new line, it can easily be done to work on the circular system.
777. Do you not think the gradients are rather steep to get down to Circular Quay with a steam motor;—do you not think that there would be some great difficulty in making a connection with the terminus here at Phillip-street? None whatever. You could take a slice of the vacant ground at the corner of Bridge-street. It is rather stiff—it would be better if it were not so stiff, but still it could be easily done. There are heavier pinches than that on the lines.
778. Where? There is one going to Balmain, and, I think, in Elizabeth-street the grade is about the same as it is in Bridge-street. Bridge-street, I take it, is about 1 in 16 or 17. Another route I would suggest is to take it about the corner of Bent-street and Phillip-street, which is 75 feet above high-water line.
779. Pretty stiff gradients to overcome? It is stiff, but still it may be overcome, and especially by taking a slice of the Union Club ground.
780. Do not you think that persons residing about Miller's Point, and on the western side of Circular Quay have as much right to be considered, as regards tramway facilities, as the people who are now served by the tramways to this terminus? They would be served in just the same way. They would come from Miller's Point and Lower George-street, and there would be doubtless a branch line down there.
781. If an electric tram is laid down, according to the Departmental plan, it will be much nearer to the residents of Miller's Point and of that locality? Yes; but Miller's Point is but a very small unit of the whole. It would be shorter by way of the Argyle Cut.

782.

J. Musson, Esq. 26 Mar., 1896.

782. You admit that they have no tramway there? Yes.
783. They have a tramway down Elizabeth-street which serves the city and suburbs? Yes.
784. So they are fairly well served? Yes.
785. You want to bring the other tram round to them to give them increased accommodation? No. I also propose that they should be served by Kent-street.
786. By another tram altogether? Yes; by a single line.
787. It would be all the better, I admit, if we had a tramway in every street, but there is the expense to be considered? The expense would not be greater in going round Dawes' Point.
788. *Mr. Wright.*] Have you any idea of the cost of your proposed deviation? The cost of the deviation certainly will not be greater than the cost of the other. It will be less, because it will be 10 chains shorter.
789. According to this plan the distance seems rather longer? No; it is about 10 chains less.
790. What special benefit will be served by that deviation? The Exchange traffic will not be served by the new tram.
791. But the traffic from Circular Quay, from which the bulk of the traffic would be derived, will be served by the electric tram, and it is only a comparatively short distance from the Exchange to George-street? The distance is about 10 chains. That part would be left out altogether. The line can still extend down George-street.
792. Is there anything more in your proposal than a desire on your part to be original, and to strike out a path different from that suggested by the Department? I beg your pardon. I think it is a better plan. It is no benefit whatever to me.
793. I see nothing to be gained in this proposal. You propose no gain unless it is a desire to be original, and to have a separate scheme from the Departmental one? I beg your pardon. It is more direct, and it is shorter.

Harry Beauchamp Lassetter, Esq. (Messrs. F. Lassetter & Co., Ltd.), sworn, and examined:—

H. B. Lassetter, Esq. 26 Mar., 1896.

794. *Vice-Chairman.*] You are one of the managing directors of the firm of F. Lassetter & Co. (Ltd.)? I am deputy-chairman.
795. Your senior expressed a desire to give evidence with reference to this proposal, having, on a previous occasion, appeared as a witness in opposition to a proposal to construct a cable tram in George-street, and I understand he has, unfortunately, been obliged to go away? He has gone to Europe.
796. You are prepared to give expression to the opinions which you know he entertained in regard to the present proposal? Yes.
797. *Mr. Lee.*] You are aware that it is intended to put down a double line of electric tramway from Circular Quay to Redfern Station, and to Harris-street? I do not know anything about Harris-street.
798. You desire, I suppose, to give evidence as to the effect it would have upon the business in George-street? And also as to its convenience to the public.
799. Will you state your views to the Committee? I think from the point of view of the public convenience a tram is very much preferable to a 'bus. George-street, for private traffic, is now almost impassable, for there are so many lines of 'buses running at various speeds, and heavy carts blocking the traffic. I think the trams would take away the 'buses and make George-street better than it is now.
800. You are aware that a number of the 'buses now running through George-street come from some of the remote suburbs which are not touched by the tram-line, and which will not be touched by this electric tramway, therefore, the inference is that these 'buses will continue to travel through George-street if this tramway is made? But I think the principal traffic on the 'buses is from the railway station. I refer to the four-horse 'buses.
801. These 'buses would only form a small proportion of the 'bus traffic? The others come, I believe, from the western suburbs—from Darlington. It is proposed eventually, I understand, to bring all the traffic from the western suburbs along George-street. That will take away all the western 'buses.
802. You think it would be a desirable thing to get rid of some of the 'buses? I am sure it would.
803. Have you noticed that of late years the 'bus traffic has increased very much? Yes; the number of 'buses is very great now.
804. Do you find that it interferes with business generally to have this traffic in the street? I do not think the general public use the 'buses. It is mostly in the morning and in the evening that the 'buses are run to convey to and from the city the clerks and other people in employment here.
805. But there is a continual stream of 'buses running along the street? Yes.
806. I presume it is the construction of the 'buses and the failure of the wood-blocking which make the 'buses such an intolerable nuisance? An intolerable nuisance. In some cases it is almost impossible to conduct business. Opposite to our premises we have a new pavement laid close together, but I notice very little improvement on the old system, as far as the noise of the traffic goes. If you have your window open you have to talk very loudly.
807. For that reason alone, you think that some steps should be taken to ameliorate that state of things? Yes, I think that a tramway along a street directs the traffic of that street. If you are driving along George-street you will see very few of the 'buses keeping close to the kerb, that very often the 'buses and even the hansoms and the carriages keep out in the middle of the street. The traffic in George-street is not properly conducted as it is in the narrow streets in other large cities where it is continuous. The various speeds of the different classes of vehicles interfere with the traffic, whereas with a tram-line they must keep close to the kerb. I think a tramway directs the traffic rather than impedes it. For instance, it is far easier, I think, to drive along William-street since the cable tram has been laid than it used to be, because people must keep to the proper side of the road.
808. Is the delivery of goods to the warehouses in George-street made very largely from that street, or is it made from York-street? It all depends upon the depth of the premises. If the business premises go right through to York-street the delivery of goods takes place in York-street. I think most of the large firms have entrances in York-street—Brush and Son, Briscoe, Drysdale, & Co., and our firm have an entrance in York-street. There are only the smaller shops, as far as I know, which have no back entrance.
809. *Mr. Wright.*] That is between King and Market Streets only? Yes; that is as far as I can speak about. I think some of the houses facing the markets have a back entrance, but I cannot speak of my own knowledge.

H. B. Lassetter, Esq.
26 Mar., 1896.

810. *Mr. Lee.*] These are all large firms, necessitating the daily employment of heavy teams? Not the daily employment, but as the ships come in.
811. This delivery of heavy goods goes on nearly every day? It varies according as the ships come in. There are various seasons.
812. Would not that be an obstruction to tram traffic in a narrow street like George-street? I do not think it would be as much an obstruction as the 'buses.
813. You seem to hold that the usefulness and convenience of the tramway would be the means of driving a certain number of 'buses out of the street? Yes. When my father gave his evidence five years ago he was very much opposed to the introduction of a tramway of any kind. He had had no experience of tramways, except horse tramways, in the street, and he has spoken only, I think, of his experience of many years ago when they had a tramway in Pitt-street. Since that time he has travelled in Europe, and seen the different systems, and he sees that it does not impede the traffic at all.
814. I think that on that occasion Mr. Frederic Lassetter was of opinion that the tramway would be a great convenience, and would not injure people, but he thought it might be a source of danger? I think so; but he had no great practical experience of these tramways. He had not seen the system properly working as it is now worked in Europe and London.
815. Has he altered his opinion? Entirely.
816. Was he prepared to swear that that was his present opinion? He came here the other day for that purpose.
817. Your firm offer no objection to this proposal? None at all.
818. I suppose you are not prepared to speak on behalf of others? Yes. Here is a paper which I sent out to-day at ten minutes to 1 o'clock to be signed. It is to this effect:—"We, the undersigned ratepayers, having premises in George-street, are in favour of an electric tramway being laid from Redfern Station to the Circular Quay, *via* George-street." It has been signed by some firms.
819. Will you state the names of the firms who have signed the paper? Lassetter & Co.; Cowles and Dunn; Eastway Brothers; Bosch, Bartlett, & Co. (none of these last three firms have entrances into York-street); Brush and Son; Bennett and Wood; Standard Paint Company; Beard, Watson, & Co.; W. H. Glenn and Son; W. Walker, Sons, and Bartholomew; Gray Brothers; C. T. Priddy & Co.; J. Bennett & Co.; Gowing Brothers; M'Lean Bros. and Rigg; S. J. Hayward; J. B. Brady; and Farmer & Co.
820. Farmer & Co. have an entrance from George-street? Their goods entrance is in George-street. This circular was sent out at ten minutes to 1 o'clock to-day, when most of the people were away at luncheon. We could have collected many more names if we had had time.
821. From what you have seen of street traction in the various cities of Europe, how do you think it compares with the state of Sydney streets—as regards the width of the street and the order of the traffic? I think the traffic in George-street is very great. It compares with most of the large leading cities like Birmingham or Manchester. In Manchester the streets are wider. There are very few private carriages, and very few cabs in that city, and most of the traffic is done by horse trams. The rest of the traffic in the streets is heavy drays. It is some years since I was in Manchester. In Birmingham I have seen steam tram and horse tram. The traffic in that city is very large, but the trams do not interfere with the working of the ordinary traffic. In Sydney you see very few private carriages with ladies shopping as you do in London. There are very few carriages in the streets here in the day-time.
822. But there is an enormous number of public vehicles in the streets of Sydney? A tremendous number.
823. And an enormous number of drays and lorries? A great many drays; but these could go in other streets than George-street.
824. It is caused a good deal by the fact that the railway depôt is at the southern end of the city, and the fact that the water frontage is at the other end of the city influences the dray traffic? That is so. But I think drays could use any other street than George-street.
825. You think it would be an easy matter to divert that traffic into one of the by-streets? Yes; it could be diverted at the Town Hall along York-street.
826. That is done in other cities in the world? Yes.
827. The congested state of the traffic in George-street has been almost the work of the last twenty years? I can only speak of the last seven or eight years.
828. If it is necessary in your opinion to have a tram system to convey the public, do you think the traffic is likely to increase in such proportion during the next twenty years that the trams may become a positive obstruction to the traffic? I think things are improving every day. The traffic is increasing every day in the street. The 'bus traffic is mostly between 8 a.m. and 9 a.m., and from 5 p.m. to 6·30 p.m. The trams would carry all that traffic.
829. With a two minutes service there would be a continuous line of tram-cars going along the street in each direction;—would not that be a serious obstruction to ordinary heavy traffic which might want to cross the road? I do not think so, if the traffic was properly organised. In large cities policemen direct the traffic, and insist upon people keeping to the right side of the road, and close to the pavement; but here people are allowed to drive as they like and where they like.
830. Are you aware that it is proposed to erect a centre pole in the street with a double arm? I think that would be a most excellent thing. It would keep the traffic to its proper side of the road. The traffic certainly wants to be directed, whether we have a tramway or not.
831. A tramway, you think, would go a large way towards directing the traffic? I have driven in a good many streets, and I think George-street is the most difficult one I have ever had to drive in. In the wide part of the street, down below Brickfield Hill, it seems to be harder still to drive, because the wider the street the more the people spread out.
832. You are not aware of any valid objection which could be offered against this proposal? No, I have none at all.
833. Your own opinion is very strongly in favour of it? Very strongly.
834. You appear to be supported by the other merchants in the street? I could get more names if desired. These are the names of only a few persons just round about where we carry on our business.
835. *Mr. Clarke.*] You think that a double line of tramway in George-street would not interfere with the traffic to a great extent, or be injurious to the public, or dangerous to drays or vehicles? I do.
836. Many persons in George-street who have not a back entrance like your firm has would have to load their goods in that street? Yes.

H. B. Lassetter, Esq.

26 Mar., 1896.

837. With a two-minutes tram service, it would be necessary sometimes, I presume, to cross from one side of the street to the other? Yes.
838. Would not that be a difficult thing to do? I do not think it would be any more difficult than it is now. Take Cheapside, where there is a continuous stream of buses and cabs all day long, and with little side streets going off, and the cross traffic. There is no difficulty there.
839. You think that there will be no inconvenience caused by the tram in that respect? None at all.
840. Have you seen the working of the conduit system in the old country, or on the continent? No; I can give no scientific opinion on the working of that system.
841. *Mr. Hassall.*] Have you had any experience of the traffic in Oxford-street? I have been along that street repeatedly.
842. Have you noticed that between 8 a.m. and 9 a.m., and between 5 p.m. and 6 p.m. it is very heavy? I have never been there during those times. I have only been there between 10 a.m. and 4 p.m. I have never been through the street in the early morning.
843. You have not been in the street when the traffic is heaviest? Never.
844. Oxford-street would be as wide as George-street? A little narrower from College-street to Darlinghurst.
845. Do you not think a double line of trams in George-street would to a great extent interfere with the vehicular traffic? I think it would be far less inconvenient than the present system, because it would direct the traffic. If the traffic were properly conducted George-street could carry a great deal more vehicles than it does. The people pull out into the middle of the street—they do not keep to the sides.
846. The traffic could be regulated at any time, tram or no tram? Yes; it ought to be regulated now. I think the street is a disgrace.
847. On the easel you will see a plan of George-street, showing two electric tram-cars in the centre of the street, in front of the Post Office, a total width of 43 feet from kerb to kerb, and 12 feet from kerb to tram-car on either side;—do you think a strip 12 feet wide is sufficient to carry all the traffic up or down George-street in the busy portion of the day? Of course, the tram-cars will not be there all the time.
848. Practically, the tram-cars will be running all the time, and you will have to look out for them. Supposing that they do run every two minutes? I do not think there would be any difficulty in arranging the traffic. I certainly think that drays should not be allowed to go along the street.
849. Is not George-street one of the principal business thoroughfares in the city? George-street and Pitt-street.
850. These are the streets in which people—carriage people principally—do their shopping? I am sorry to say that there are not many people who keep carriages now-a-days. I do not think there will be any objection to the proposal.
851. A great majority of the large stores, having no back entrance, are compelled to take in their goods over the footpath? Yes.
852. You have seen drays backed up against the path, with the horse's head right out in the middle of the street? I do not see that very often in George-street.
853. Have you any idea how many licensed 'buses are plying in George-street? No.
854. I suppose you would not be surprised to hear that about a couple of years ago 185 licensed 'buses were plying in the street? I had no idea that there were so many.
855. These 'buses average eight trips per day, which means that they pass a given point sixteen times a day each; and the evidence taken with reference to the cable tram proposal was that these 'buses passed a given point—say, the Town Hall—about 3,000 times in one day? Tremendous.
856. That is quite irrespective of cabs;—do not you think the requirements of the people are fairly well met when they have a 'bus passing every few minutes? I think a great many persons object to travelling in a 'bus, because it is a very uncomfortable means of conveyance, and is not to be compared with trams at all.
857. How do you account for the fact that the 'buses are competing successfully with the trams from the various suburbs around Sydney? I am not aware of that.
858. And for the fact that they are well patronised, and in fact able to run passengers at a lower rate than the trams do? Not from Ocean-street to King-street. On that route the 'buses used to run every 3 minutes, but now they run, I think, every quarter of an hour.
859. That would be alongside the cable tram? I can quite understand that the steam trams are wretched things to travel in. But if you had comfortable cars on a cable tram you would find that the people would patronise them, and that the 'buses would not be able to compete with them.
860. Do not you remember that the 'buses ran off the steam trams to Woollahra? Yes. Steam trams are very unpleasant to ride in. The Woollahra tram was run off by the cable tram. Directly the cable tram was started people left the steam tram to come to Ocean-street. They used to walk down the hill to catch the cable tram, although it was further for them to go, because they preferred that mode of conveyance.
861. They prefer the cable tram to the steam tram; but it was the 'buses which knocked the steam tram off? I think it was the cable tram.
862. Does it not seem rather strange that the 'buses are still able to compete successfully with the trams? I do not think it is, because I would sooner travel in a 'bus than in a steam tram, where the cars are very uncomfortable. I use the cable tram a great deal myself every day.
863. Have you seen the electric tram working in any part of the world? No, except at Marseilles; and then I did not take very much notice of it.
864. I suppose, like the ordinary tourist, you did not take any particular interest in the electric tram there? No. If the working of the electric tram is as good as the working of the cable tram I should certainly say that it would be a very great advantage to the city.
865. You do not know what results have been obtained by the electric tram? No.
866. What are your principal grounds for advocating the construction of a tramway, whether cable or electric, down George-street? I think it would be a convenience to the public. I think a railway to Hyde Park would be better still; but as we do not seem to be able to get a city railway, I think a tramway would be a great convenience, especially to those persons employed in George-street and to people coming from the suburbs. Rather than face the steam trams or 'buses, I think a great many people, whatever shopping they have to do, do not come up into the city at all, but stop down near the Railway Station.

867.

H. B. Lassetter, Esq.
26 Mar., 1896.

867. You think a tramway, electric or cable, would bring people to the centre of the city? Yes.
868. And would be a benefit to all the storekeepers and others in the centre of the city? I am speaking from a selfish point of view now.
869. So that practically, looking at the proposal from your point of view, your advocacy is dictated by selfish motives? Yes; I think the public convenience should be considered first.
870. Judging from a remark of yours I should imagine that you have little hope of the railway being extended to the city, at any rate for some considerable time? Yes.
871. And in the meantime, to meet the requirements of the public, and also to benefit others who reside more centrally in the city, you advocate the construction of a tramway down the principal thoroughfare? Yes. I was asked a question just now about crossing the streets. I find that there is very little difficulty in crossing Elizabeth-street, where the cable trams come every three minutes and the steam trams, I suppose, every two minutes, or in crossing the tram-line at Park-street, or at any of the streets. The crossing is very easily regulated. All these lines of 'buses go along the street.
872. There is no doubt that you can regulate any traffic, but the main street traffic is practically that which runs from Circular Quay up towards the Railway Station? Yes.
873. The traffic in the cross-streets is not so heavy as it is in George-street? No. The traffic in George-street, as far as private carriages are concerned, has greatly decreased. People cannot afford to keep them. I think the principal people who use private vehicles, are those who come in from a distance to their offices or work. I was astonished on going down George-street to see the decrease in the number of private carriages. Outside our own place people walk now. You do not see carriages drawn up now as you used to do.
874. Do you think that is the effect of the running of the cable tramway and the other trams? I think it is the effect of the depression.
875. You hope that the construction of this electric tram will bring about an improvement? I am sure it would.
876. *Mr. Wright.*] There are two parts of George-street with back entrances, viz., on the western side, between King and Market Streets, and on the western side, between Wynyard-lane and Margaret-street? Yes.
877. I suppose you know enough of the city to know that, as regards the remaining portion of George-street from end to end, the business houses, either big or little, have no back entrance? I think some of them have.
878. Do you not think that a house, in taking in goods across the pavement, will encounter very serious difficulties from the introduction of this tramway—taking into consideration the fact that the tram traffic will be a rigid traffic, which cannot be diverted one inch to avoid the heads of a pair of horses, and that the 'bus traffic is an elastic traffic, which can be moved to meet the requirements of the roadway—considering that the trams would either go along or stop to avoid a collision; and considering that the distance from the kerb to the outer rail on either side is 12 feet, or rather, that the distance from the side of the tram car to the kerb is 11 feet;—do you think then there is sufficient room to allow a pair of horses to back in and load? Not to back in and stand with the horses' heads right out into the street.
879. If they stand parallel with the kerb, there will be no possibility of any vehicle being able to pass between the lorry and the tram? A vehicle if stationary will occupy a small space, and a driver coming along on the near side, as the case may be, will be able to watch his opportunity to get past the tram.
880. He would not have much opportunity to pass the tram, especially as it is proposed to run a thirty-second service—possibly a fifteen-second service—to meet the rush of traffic in the early morning to and from the station. If a driver were coming along with the tram, he could ease up when he was coming to this obstruction, and just follow the tram and get round on the other side. It would be a momentary obstruction.
881. You do recognise the fact that a rigid service like the tram service, would be more likely to cause a congestion and stoppages of traffic than an elastic service like a vehicular one? Of course the traffic now is very bad. I say if the traffic were properly regulated, it would be better. But I do not think the tramway would interfere with the traffic.
882. I see your contention, but I wish to point out to you that if a tram were going down the centre of the road, there would not be sufficient space between the kerb and the tram to allow two vehicles to pass? They would have to follow with the tram, but that would only be for a short distance, I understand, in George-street—for not more than a quarter of a mile, I think. And I do not think the class of shops in that narrow portion of the street import very much goods, or carry very much goods across the pavement.
883. Take a large shop like Holdsworth, Macpherson, & Co.? They load all their goods from the back. They have facilities for loading.
884. There are other large business firms down there, for instance, Harris and Attwood? They are wine merchants, and they are not always taking in goods.
885. They are often taking in goods. But you think it would be a convenience to the travelling public, and would conduce to the prosperity of Lassetter & Co. to have this tramway down George-street? I have not the slightest doubt about it.
886. And that it would possibly cause a number of people who now stop down at Hordern's to come up into the city? I do not say Hordern's in particular. Theirs is a different class of trade from ours.
887. But you are aware that Anthony Hordern and Sons are universal providers? The people who go there do not come up to us. We do a different class of trade.
888. The Tramway Superintendent admitted in evidence that 171 'buses ply in George-street, that of that number, thirty-four 'buses ply between the Railway Station and Circular Quay, and that the remainder come from the Glebe, Newtown, Leichhardt, and other suburbs. I suppose you recognise the fact that the construction of this tramway will not diminish the number of these 'buses? I think it will. If the idea of the Commissioners to divert the whole of the western suburban traffic by George-street is carried out, I think it will take away these 'buses. Very often now I use a 'bus along George-street. I very often get on the Forest Lodge 'bus. But these 'buses are not used by the people from the suburbs. They fill up from the Railway Station.
889. That is a purely local traffic? There is a great local traffic.

890.

H. B. Lassetter, Esq. 26 Mar., 1896.

890. But considering that the 'buses to the suburbs are not only competing successfully with the steam trams, but are gradually growing in numbers, and gradually increasing their number of passengers—according to expert information, carrying as many passengers per day as the steam trams do—do you think it is likely that these passengers will disembark outside the Railway Station for the purpose of paying 2d. to ride the rest of their journey in the electric trams? I do not think they would do that. A lot of these outlying 'buses will be diverted.

891. Supposing that the thirty-four railway 'buses were wiped out, there would still be nearly 140 'buses running in from outlying suburbs, so that you would have to face this difficulty: that you would have almost the same 'bus traffic, and that on the top of that traffic you would have the electric tram service? I think a great deal of the 'bus traffic will be taken away.

892. It will not be taken away unless they alter the steam service? I understand from the papers that they are going to alter that service.

893. That is in the dim future? It ought to be done.

894. What sort of congestion do you think the continuation of this suburban 'bus traffic and the introduction of the tramway traffic will produce in George-street? I do not know whether it would carry all that traffic, unless it is diverted to some other street.

895. It would certainly tend very much to the congestion of the traffic? I think it would—that is, if it were so.

896. I am assuming that it will be so? I do not admit that it will.

897. Assuming that the outside traffic remains as it is, do you think that if an electric tramway is constructed through George-street, and the railway 'buses are done away with, there will be a very great congestion of the traffic? I think there would, if the other 'buses remained, but I do not believe they would.

898. The experience of the last three or four years is that year by year the 'buses running side by side with the steam tramways are increasing, and taking a larger proportion of the passengers? I can quite believe that. I think steam trams are terrible things to ride in. They jar on the nerves, and everything else.

899. Have you any idea of the number of passengers carried along George-street per day? No. One hundred and eighty-five 'buses making six trips a day would, I suppose, carry an average of ten persons a trip.

900. They average more than that number;—they come from a distance of 5 or 6 miles outside Sydney, and take people to any part of George-street for a penny less, in many instances, than is charged on the steam tram? Yes.

901. I suppose, on the whole, you consider that Sydney is badly provided with street locomotion? Very badly.

902. You think that the present tram service running along as it does on the eastern extremity of the city, hardly supplies the wants of this great city? It is terrible.

903. You think George-street would be the best street to construct this line in? I do, as it is in the heart of the city.

904. A proposal was made some years ago to have a single line running down George-street and Pitt-street, and your father bitterly opposed the proposal at the time? He did, I believe.

905. And I think nearly all the mercantile men in Sydney who gave evidence also expressed their disapproval of the proposal? Quite so; but I think they have all changed their opinion.

906. Their ground of dissent was that a single line along either street would interfere very considerably with the traffic? Yes.

907. In face of the fact that the electric tram will be a double line, you still think, and Mr. Frederic Lassetter also thinks, that in place of being a detriment it will be a benefit to George-street? I suppose he, with others, was without any experience of the working of such lines in crowded streets.

908. He has had the experience of a system of steam tramways here? You cannot gauge by that. That is almost like a street railway.

909. He has had the experience of the cable tram? Yes.

910. And he has seen a very perfect cable system in Melbourne? Yes; but the streets are wider there.

911. Notwithstanding whatever knowledge he may have of these things, whether it be little or much, he and other gentlemen occupying prominent commercial positions opposed the construction of a single line of tramway in George-street and Pitt-street on the ground that it would very seriously interfere with business in the city? Yes. I suppose King-street is no wider than George-street, and yet the cable tram does not seem to affect the traffic there.

912. When I tell you that between George-street and the foot of King-street there are twenty-seven empty shops now, you will say that the cable tram does affect the traffic? Not from George-street upwards.

913. I mean going downwards? I do not think the tramway has done that.

914. I know these shops were not empty before it was constructed? Some of them, I think, were only just going up.

915. As far as your knowledge goes, you believe that this tramway in George-street will be a benefit, not only to the residents of that street, but to the community generally? I think it will be advantageous both to the public and shopkeepers, and also to people doing business in George-street.

916. *Mr. Trickett.*] There is a considerably heavy traffic in George-street? Yes.

917. Do not you think the construction of this tramway in George-street would have the effect very much of sending a lot of this heavy traffic into Pitt-street, to the detriment of, people there? I suppose some of it would go to Pitt-street. A great deal of it would go to Castlereagh-street, and a great deal to York-street.

918. It would hardly go to Castlereagh-street, as the grade from the Circular Quay is so steep. Would it not mostly go to Pitt-street? I do not think it would. York-street would carry a great deal more traffic than it does.

919. It could, but the heavy traffic seems to choose the most crowded streets? I think it should be a matter of police regulation as it is in London. In London the 'buses are not allowed to turn into Cheapside from Ludgate Hill. They are not allowed to go along certain streets, and the heavy traffic is diverted.

920. Do you, as a business man, think it is desirable that if an electric or any tram is constructed along George-street, early legislation should be passed to regulate the way in which the traffic should go? Yes, whether a tram is made or not. I think it is absolutely necessary now to regulate the traffic.

921. When Mr. Frederic Lassetter was examined in 1890, he strongly advocated that if a tramway were laid down from Circular Quay to the Railway station it should be a single line along George-street returning

H. B. Lassetter, Esq. 26 Mar., 1896.

returning by way of Pitt-street;—do you think that would meet the requirements of the traffic? I do not think it would be objectionable, but it would entail extra expense, I suppose, from a railway point of view.
922. Would it not leave more room on either side of the track to carry the ordinary traffic? It would.
923. Do you think that people would look upon that as objectionable as having to walk from one side of the street to the other when they wanted to go the reverse way? I do not believe the people would.
924. It is a very short distance between Pitt-street and George-street? It is. It would make an alternative route if the electric tram could turn the corner at the Town Hall and go to Circular Quay *via* York-street.
925. If that were not practicable, you think that even a double line of tramway could be laid along George-street without causing any great inconvenience? I feel sure of that.
926. You stated that notwithstanding the good pavement we have in Sydney, especially in the new part opposite your premises, the noise of the traffic is very great? It is intolerable.
927. What is the cause of the noise? I suppose it is because the 'buses are so badly constructed.
928. It is owing to the want of proper box-axles? Yes, and the construction of the 'buses altogether. The 'bus is dirty, and it is not so good for the public as is a tramway.
929. As a business man, you do not look upon this tramway as a substitute for a railway into the heart of the city? Certainly not.
930. Only as an auxiliary to take the traffic to the railway and to the western suburbs? Yes.

Alfred Edward, Esq., Registrar, Metropolitan Transit Commission, sworn, and examined:—

A. Edward, Esq. 26 Mar., 1896.

931. *Vice-Chairman.*] Are you in a position to make a statement with regard to the 'bus traffic in Harris-street and in George-street? I am prepared to state the number of 'buses which pass the railway-station and run into the city.
932. Will you be good enough to make your statement? The number of licensed 'buses passing Christ Church is 161. Of that number thirty-one 'buses go to the railway-station. Only twenty-six 'buses run *via* George-street from Circular Quay to the railway-station, and five run *via* Pitt-street. The 'buses running out to all the southern and western suburbs—to the Glebe, Forest Lodge, Darlington, Redfern, and Newtown—number 161; and in that number I include eleven 'buses which run past the railway-station regularly between Pyrmont and Circular Quay.
933. *Mr. Wright.*] We were told yesterday that nineteen 'buses are running on that route? Eleven is the number licensed for this year on the route.
934. *Vice-Chairman.*] Have you had any opportunity to ascertain the average number of passengers carried? I can only make an estimate of the number. A 'bus would run on an average about seven trips a day—making 1,127 trips each way per day, and on each trip a 'bus would carry on an average about ten passengers. Some 'buses carry more than that average; some carry less. The railway 'buses carry considerably more.
935. *Mr. Clarke.*] Can you state the number of passengers which are carried from Harris-street and Pyrmont along George-street to Circular Quay? There are eleven 'buses running from Pyrmont. Each 'bus would run on an average about eight journeys per day, making eighty-eight trips each way; and as the 'buses are small ones a 'bus would carry on an average eight passengers; so that the 'buses would carry 704 passengers per day each way. That is a good estimate.
936. Only 700 passengers each way per day? Yes.
937. How can you account for the 'buses running between Sydney and the suburbs taking a considerable amount of the traffic from the steam trams? The 'buses are quicker and cleaner, and run more often, and in some instances they are cheaper. The 'bus service is a better one than the steam-tram service.
938. Would not these 'buses, if this electric tramway is constructed, take away a good deal of the fares, not only from the steam tram to the westward but also from the electric tram itself? I do not think the 'buses could compete with the electric tram, if it is anything like the electric tram running on the other side of the water; but they certainly would continue to take a large number of the passengers from the steam trams, no matter whether this electric tram is made or not.
939. Would not that interfere with the fare received by the steam trams? Certainly. If there were half the number of 'buses running the electric tram would pay much better than it would with a number of 'buses plying side by side with it.
940. You think the 'buses will be obliged to leave off running? I think that if an electric tramway is started between the railway station and Circular Quay the 'buses would very soon cease to run to the railway station. It would have a certain effect on all the other 'buses, because they rely to a good extent on what they term the street traffic—that is, the traffic between the Post-office and the railway station.
941. Would not the 'buses from the suburbs still land their passengers at convenient places along George-street? Undoubtedly. Whilst the steam trams run out to the suburbs these 'buses will continue to run, and the passengers by the 'buses are not likely to alight at the railway station and get on to the electric trams.
942. As regards the considerable 'bus traffic from the eastern suburbs, would it not be affected? It would not be affected in the slightest degree. None of these 'buses go near George-street—they go down Pitt-street.
943. Should a railway be made from Redfern to Circular Quay, would it interfere with the earnings of the electric tram? Most decidedly it would seriously affect the earnings of the tram.
944. You think that if the railway is to be extended there is no necessity to construct an electric tram? I think the electric tram is absolutely unnecessary, provided that the trains run to the city.
945. Considering that there is not much probability of the railway being extended to Circular Quay, do you think that this electric tramway would be a financial success? I do not know.
946. It is stated by the Commissioners that it will cost about £133,000? I do not know if it would pay on that outlay, because the electric trams would have to compete against 'buses, and the Commissioners would have to keep the fares down in order to compete with the 'buses.
947. It is stated on behalf of the Commissioners that the tram will earn 10 per cent? I think if it is to cost the sum stated there will be some difficulty in earning that amount, considering the competition which they will have to face, although they would be very well patronised.

A. Edward, Esq. 26 Mar., 1896.

948. Are you of opinion that it would not pay 10 per cent. on that outlay? I would not like to say off-hand, without giving the matter some consideration.
949. Are you conversant with the overhead electric system? Only from seeing the working of the system at North Shore.
950. Do you think that this electric tramway would be any source of danger to the traffic in George-street? An occasional cab or two may get knocked over. I do not think the danger will be very serious. I think there will be great delay in the traffic along George-street if a double line is laid, because right along on each side of the street you will see vehicles standing at various places, and 'buses or other vehicles passing would necessarily encroach on the tram-line, and would not get out of the way. They would go along in their ordinary course.
951. I presume, as it is a public road, unless a special Act is passed, it will be difficult to prevent the 'buses from doing it? In a minor degree, sometimes that occurs now.
952. Have you any idea whether there is any interruption to the traffic in King-street between the wharf and Sussex-street since the cable tramway commenced to run? Frequently the trams have to stop, and frequently vehicles are delayed by the trams. Both have to give way at times. There is an immense amount of slow traffic in that locality. It is not so easily shifted as light traffic; it takes some time to get out of the way.
953. Would that occur to a certain extent in George-street? I think there would be more or less a block of the traffic all along the busy portion of the street, say, from Bathurst-street to Bridge-street.
954. *Mr. Hassall.*] How long have you held your present position? Eight years.
955. You are capable, then, of forming a pretty good opinion as to the effect of the tramway upon the traffic in George-street? I think so.
956. Will you explain whether the licenses for vehicles have increased or decreased in number during the last few years? They have increased considerably, but only as to 'buses within the last three years. The cabs increased wonderfully until about three years ago, when the depression set in, and since that time they have not increased. But the 'buses have increased very considerably during the past two years.
957. In your evidence before the Public Works Committee in December, 1890, you stated that 185 'buses passed through George-street in that year; that on an average they made eight trips a day each way; that they passed a given point about 3,000 times a day; and that in Pitt-street fifty-three 'buses were plying;—will you explain how it is that we have only 161 'buses plying in George-street to-day? I make the number of licensed 'buses to-day 161. I will check the figures I gave in 1890 when I return to the office. There is apparently a difference of twenty-four 'buses to be accounted for. Up to a short time ago eight or ten 'buses were running to Balmain. The penny ferry has knocked these 'buses off the line. Again, only six 'buses are now running to Darlington, whereas at one time twelve 'buses used to run there. I cannot explain at this moment how to account for the remaining eight 'buses
958. You said in 1890 that there were about twenty-three 'buses running in Harris-street;—can you state whether the number of 'buses has decreased in that street? The Balmain 'buses which have been knocked off used to run via Harris-street.
959. Have you any idea how many vehicles pass along George-street? I could not say without having a check made. On one occasion I had the empty cabs checked at the corner of King-street, and there was an average number of 100 cabs passing that corner per hour. I should think that all the 'buses and private vehicles would be more than double the number at that point.
960. I suppose the suburban 'buses look to the pick-up traffic between the Post Office and the railway station to recoup them to a certain extent for the low fares they charge for the through trip? That is so.
961. How do they manage to compete so successfully with the steam trams? Most of these 'buses are owned privately in the outlying places. They have no managerial expenses to bear. They cut it very fine. The Omnibus Company, whose managerial expenses are larger, do not ply very far out as a rule. They restrict their operations to places which are adjacent to the city, and which are very thickly populated. The only way in which I can account for these 'bus proprietors being able to compete with the steam trams is that they have no wear and tear on the roadway to make good, and that they manage their own 'buses.
962. They work their 'buses economically, and their expenses are less comparatively than the expenses of the steam trams? Yes.
963. And consequently they are able to run for a lower fare, and so get the traffic? Yes.
964. Have you had any complaints lately of the congestion of the traffic in the principal streets? Not specially. There is always a certain amount of complaint as to the congestion of traffic in a busy thoroughfare. The worst place is the block along George-street, between Hunter-street and Market-street.
965. Have you had any complaints with regard to the traffic in Pitt-street since the cable tram has been started? Not necessarily. But the traffic in Pitt-street is always congested. The street is so narrow, and there is always such a number of vehicles standing outside the doors in that street, between King-street and Market-street.
966. They reduce the traffic way very considerably? Undoubtedly.
967. Is the heavy traffic regulated in any way? No. Within the past eighteen months a committee of the City Council held a number of meetings to deal with this question, and their decision was that it would be an unnecessary interference with the rights of citizens to dictate which way the traffic should go.
968. Have not the Transit Commissioners any power to deal with the traffic? Not as regards private traffic. We regulate which routes the 'buses shall travel, but not the cabs.
969. And the wool drays? We have no control over the wool drays. Being special constables, our officers have the same control as a policeman would have; but we have no power to lay down what routes they shall follow.
970. Is the power vested in the City Council? Entirely. My own opinion is that the heavy traffic should certainly be restricted from going into portions of George-street and Pitt-street.
971. Is not this heavy traffic the principal cause of the congestion and the blocks in the streets? Very little of this wool traffic goes into George-street. The congestion is caused by the slow traffic, like the drays, which saunter along a good distance from the kerb, not on the middle of the road, but sufficiently far from the kerb to cause a good deal of congestion.
972. Do not you think some step should be taken to regulate this particular traffic? I do. I do not think it should be allowed to use the busy streets.

A. Edward, Esq.
26 Mar., 1896.

973. Cannot the Transit Commissioners take any steps in that direction? Not directly; but they made certain recommendations to the City Council, and the City Council has taken no steps to that end.
974. What vehicles do the Transit Commissioners control? Licensed 'buses, cabs, and vans.
975. Do not the licensed 'buses, as a rule, ply up and down the centre of the street, and pull up in the centre of the street to the detriment of other traffic? I do not think, as a rule, that is done.
976. I have seen it done scores of times? It does happen, and we do our best to cope with it.
977. As a rule, relying on their weight and strength, they bump light vehicles out of the road? It is mostly for the public convenience that they pull up in this way. As soon as they see a passenger they pull up wherever they happen to be. A 'bus cannot very well get in to the side of the road, because there is generally some vehicle standing at very short intervals. If they were to pull into the side of the road, it would be one tortuous way in and out. Whilst a 'bus is in motion it is very difficult to keep near to the side of the road.
978. Is not one of the most serious complaints against the 'bus traffic the fact that they habitually pull up in the middle of the street, irrespective of what may be behind them? I have not heard it seriously complained of.
979. Would not a frequent tramway service in George-street materially reduce the number of 'buses and cabs? It would knock off the railway 'buses, and if it went to Pyrmont it would knock off the Pyrmont 'buses. It would have a slight effect on the other 'buses. I do not think it would have any immediate effect, but within a year or so I daresay 15 or 20 per cent. of them would go.
980. They would gradually go off the road? No; not more than that percentage. That would be about their standing point.
981. Have you ever heard of the suburban 'buses racing the through trams? Oh, they beat the trams easily. Supposing a 'bus and a tram start level, the 'bus picks up its passengers about its starting-point, and, therefore, it gets a fair start, but the tram pulls up at each stopping-place until the first section is run, and at that time the 'bus is out of sight, and is very rarely caught again.
982. Take the Waverley tram, which pulls up at each stopping-place until it gets to Queen-street, and then has a fair run down Oxford-street, Paddington, and just about catches up to the 'bus on Barrack Hill;—have you ever heard of a pretty good race taking place down Barrack Hill between a tram and a 'bus? No.
983. Is it not a dangerous practice for a 'bus-driver to indulge in as regards unfortunate nervous passengers? It is indeed. The question of fares has not been touched upon. I think it is quite possible that 'buses could be run from the railway station to Circular Quay at a penny fare.
984. Was not an application to that effect made some time ago to the Commissioners and disallowed? It was granted eventually. The other 'buses came down to 2d., and told this man that they would come down to 1d. if he started. They frightened him off.
985. *Mr. Wright.*] Was not his first application refused? It was refused until he submitted proper vehicles. He would not say what kind of vehicles he proposed to run. We would not license a second-class vehicle, even to get a 1d. fare.
986. *Mr. Hassall.*] Supposing this electric tramway did not have the effect of reducing the number of 'buses very materially, do you still think that George-street would be wide enough to carry the whole of the traffic? I think it would be exceedingly inconvenient from a traffic point of view. It would suit the travelling public, but it would be very inconvenient to the traffic.
987. Do you think it would be necessary for the Transit Commissioners to take steps to remove a portion of the traffic out of George-street? They certainly would not do it. They are not going to take away the best part of the road from 'busmen who have been running there for years simply to throw it into the hands of the Government who are running tramways.
988. These men have practically a right to the road, and you could not take away that right without giving them compensation? The Board could take it away without giving them a penny, but they would not.
989. Is it not a fact that whenever a line of 'buses changes hands the purchaser inevitably pays for the plant, the goodwill, and the right to the road? Undoubtedly. A 'bus was bought the other day. The whole plant was valued at £180, but the buyer gave £300, paying £120 for the goodwill and the right to the road.
990. Do you think an electric tram, consisting of a car and a motor-car, could take about three times as many passengers as a 'bus? No; the big railway 'buses carry easily thirty passengers, which means that they carry thirty-five.
991. What is the biggest load you ever heard of being carried in a 'bus? Once I saw seventy-five people on a big 'bus belonging to Stewart. It was privately engaged for a football match. The people rushed the 'bus, and the driver was powerless.
992. You do not think any tram-car would carry more than you saw on that 'bus? No; I suppose, as a rule, a dummy and a car would carry more than a 'bus.
993. On the electric tramway each car will carry fifty-two passengers? That is more than a 'bus will carry.
994. What is the height from the surface of the road to the crown of the hat of a passenger sitting on the top of a 'bus? I should say 12 feet.
995. *Mr. Wright.*] Can you state approximately the number of 'buses that pass the Exchange per day? I think it is between fifty and sixty.
996. *Mr. Trickett.*] You stated that you think the number of 'buses would decrease if this tramway were started;—how does that agree with the fact that in the eastern suburbs the 'buses have increased, I should think, five to one, roughly, notwithstanding the running of the trams? Only the difference in the class of tram would affect it.
997. Nothing else? A quicker service.
998. You think that a quick service on this tramway would have the effect of keeping the 'buses off the street? I think it would between the railway station and Circular Quay.
999. A witness has stated that it would have the effect of regulating the traffic in a direct line, and preventing it from wobbling about the streets so much as it does;—do you believe it would? I do not.
1000. You do not think it would make any difference in this respect? I think there are so many stationary vehicles alongside the shops that you cannot get the through traffic to go direct, unless it keeps in the middle of the road, which would be on the tram-line.

1001.

A. Edward, Esq. 26 Mar., 1896.

1001. You still think that the vehicles would go all over the street? They could not keep in the centre of the road when the tram was coming; they would have to pull aside, but I fancy the trams would be frequently delayed. With an electric tram it would not be so bad as it is with the cable tram. An electric tram can be stopped anywhere, or slowed down, whereas a cable tram has either to go at the usual pace or to stop.

1002. The tramway superintendent has stated that he expects to carry 5,000,000 passengers by this electric tramway to the railway, and 2,000,000 passengers along Harris-street per annum;—would you like to say whether that is anything like a correct approximation of the traffic? I do not know as regards the railway, except that a lot of the present railway train traffic would be diverted, but as regards Harris-street, I think that 2,000,000 passengers per annum would be an exceedingly large estimate.

1003. Can you supply any figures which would help the Committee to check this estimate? I can tell you the exact number carried by 'bus during 1895 between Pyrmont and Sydney. I can give the number of passengers carried by the 'buses plying directly to the Railway Station—not by the ordinary pick-up 'buses—and I can supply an estimate of what the other 'buses would be likely to pick up. Pyrmont is very peculiarly situated. It is very thickly populated, but the people are not going the whole way round by the electric tram when they can get across in the boat for 1d. and walk up the hill. Ultimo is not very thickly populated. And even there, supposing you are at the Technical College, it is quicker to walk to Anthony Hordern's and jump on the tram at 1d. less than to ride round in the electric tram. I was asked on the previous occasion which route I thought would be the better one for a tram to take—towards Pyrmont, or past the mortuary along Regent-street. There is no question that the left-hand turning is the better one to take. Eleven 'buses ply to Pyrmont, and about thirty 'buses ply the other way. Pyrmont could not be looked upon, as far as 'bus traffic is concerned, as a remunerative place to run to. The line between the Railway Station and the Circular Quay is the best line in the city.

1004. To go down as far as John-street to go into Sydney is in a great measure like taking two sides of a triangle as against one? Yes. There is not very much traffic except old women and invalids between Sydney and Pyrmont by 'bus, nor would there be by tram. The only traffic would be direct from Pyrmont to the railway station.

1005. *Vice-Chairman.*] You estimate that the 'bus traffic to Ultimo is about 1,400 a day? It may be a shade more than that.

1006. That would be less than half a million a year;—it is represented to the Committee that the probable traffic from Harris-street by the electric tram will be 2,000,000 per annum;—what is your opinion concerning that estimate? I regard it as a very large estimate.

FRIDAY, 27 MARCH, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. JOHN DAVIES, C.M.G.	CHARLES ALFRED LEE, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq. 27 Mar., 1896.

1007. *Vice-Chairman.*] Do you desire to make an additional statement to the Committee respecting the proposed tramway? At the request of the Committee I have had an investigation made as to the amount of vehicular traffic on Pitt-street and George-street. I instructed Mr. Fischer to get the investigation made for me. He put three men on to observe the traffic contemporaneously at three different points. The following is his report:—

IN accordance with your instructions, I have made an investigation as to the amount of vehicular traffic carried upon King-street and George-street, with the results shown on attached detail sheet.

It will be seen that the density of traffic at the various positions chosen is almost as—King-street, between George and Pitt Streets, 1; George-street North, below Bridge-street, 2; George-street, between G.P.O. and King-street, 3. As regards the effect of the King-street cable tramway upon the vehicular traffic in King-street, this is very difficult to estimate, as we have no records of what the traffic was before the opening of the tramway. However, in the City Surveyor's evidence given before the Public Works Committee on the King-street Tramway, the number of vehicles passing the intersection of George and King Streets between 3 p.m. and 6 p.m. is given as 965 per hour. My investigation shows that at present only about 800 per hour pass there now, but whether this is entirely due to the cable tramway, is very difficult to tell. Perhaps the officers of the Transit Commissioners may be able to give information on this point.

RETURN of vehicular traffic in George-street and King-street.

Location.	Time.	Friday, 20 March, 1896.	Monday, 23 March, 1896.	Average for both.
King-street, between Pitt and George Streets	10 a.m. to 12·30 p.m.	425	496	460
	3 p.m. to 5·30 p.m.	513	564	538
	Total for five hours	938	1,060	998
	Per hour	188	212	200
	Per minute	3·13	3·53	3·33
George-street North, below Bridge-street	10 a.m. to 12·30 p.m.	820	940	880
	3 p.m. to 5·30 p.m.	930	870	900
	Total for five hours	1,750	1,810	1,780
	Per hour	350	362	356
	Per minute	5·83	6·03	5·93
George-street, between General Post Office and King-street	10 a.m. to 12·30 p.m.	1,400	1,470	1,435
	3 p.m. to 5·30 p.m.	1,480	1,520	1,500
	Total for five hours	2,880	2,990	2,935
	Per hour	576	598	587
	Per minute	9·60	9·96	9·78

If

H. Deane, Esq. 27 Mar., 1896.

If you add 200—the average per hour in King-street—with 587, the average per hour between the Post Office and King-street, you will get fairly approximately the traffic crossing the intersection of George and King Streets in both directions. I also desire to state the estimated cost of adopting electricity to the existing line from Bridge-street to Redfern Station with a five-minute service. Outside electric work, £5,600. Car-house. I put down nothing for the car-house, because the present accommodation would be used. The proportion of the power plant required would be £3,200, and eight motor cars, £4,640, making a total of £13,440.

1008. That would give an electric service between Bridge-street and the Railway-station in substitution for the present steam service? Yes; for the railway service. That estimate is based on the figures which have been given for George-street and Harris-street. I think it is fairly comparable.

1009. *Mr. Lee.*] When your examination was interrupted on the last occasion we had got to the point of distinguishing between the heavy traffic and the light traffic in the street, and the danger to pedestrians in consequence of the heavy traffic, and your answer was that you saw no danger? I should like to supplement the information I gave in this way—that I think it might be a good thing in the broader part of George-street, where people going to and from the trams would have a longer distance to cross to make the places where the bracket poles are erected more in the nature of refuges than elsewhere. It would be a very great convenience. It would be a very great improvement in this street to have resting-places halfway across for the people.

1010. Would you make these places a little longer and wider? Yes; but that is not a part of the scheme, and the cost is not included.

1011. You have supplied supplementary plans to show the position which the trams would take in the streets? Yes.

1012. Will you kindly explain these plans to the Committee? I have prepared two diagrams showing the two sections of George-street, where the greatest objection might be made to a double line of tramway. The plan on the right shows the narrowest part, near Queen's Wharf Road. It will be seen from the diagram that the distance from centre to centre of the rails will be 9 feet, and in that place, we have as the distance between the kerb and the rail, 9 feet. That only occurs for a very few feet in the length of the street, and beyond this point, where the constriction takes place, there will be rather more.

1013. *Mr. Wright.*] Do I understand that you would have a 9 feet instead of a 6 feet way? There is no 6 feet way in tramways. It is a common thing in America to have the rails even closer than the 4 feet shown. I have seen cars run almost touching as they pass. That is a dangerous thing to do.

1014. *Mr. Lee.*] What is the distance between the cars on the cable tram? About 2 feet. The other diagram shows the narrowest width of George-street between Bridge-street and King-street. It is 43 feet between the kerbs. There it will be seen the distance between the centre of the rails is 12 feet, which gives a clear width of 5 feet between the cars. The distance from the kerb to the rails is 13 feet.

1015. This would be sufficient for a single line of vehicular traffic, but not wide enough for a double line? No; but the cars are not always standing there—they are moving on like other vehicles.

1016. Do you contemplate that it will be a two-minutes service, or perhaps, a more frequent service at times? Yes, a minute service.

1017. Would not that offer a greater obstruction to the ordinary traffic? I do not think so. The distance between the cars would be an average of 235 yards.

1018. So long as they are all moving? Yes.

1019. It is when these things are standing that the great obstruction takes place? When they are at a standstill.

1020. Do not you think that, even with that space left in George-street, where these widths prevail, there would have to be some law passed to control the ordinary traffic? I do not see why there should be.

1021. You may notice that, at the present time, from want of proper control, it is a common thing to see cabs rushing up and down in the middle of the road in front of a 'bus, and then darting off to the other side—dodging about to get through? Yes.

1022. If the centre portion of the road will be so largely occupied with the tram, do not you think that of necessity the ordinary vehicular traffic would have to be kept under actual control? I think it will be very beneficial to travelling in George-street; it will separate the two lines of traffic, so that they will not be able to mix up and go on the wrong side of the road, as they frequently do now.

1023. The running of the cars, and the presence of the centre poles, will tend towards the proper division for the traffic? Yes.

1024. Have you any idea of the height of the highest loads that pass down the street? I do not think, as a rule, it is more than 16 feet.

1025. I think a statement was made the other day that the loads have been known to be considerably higher. It is a practice to load the trollies with very high loads of wool? Yes; but probably that would be in Pitt-street more than in George-street. There is no doubt that such loads ought not to be permitted. It would be quite competent for the Municipal Council or the Government to regulate the loading.

1026. Taking into consideration the contingency that an extension of the tram may necessitate larger traffic passing over the line, and constantly under the wire, would the wire be sufficiently high to admit of that? Quite.

1027. You do not think it is possible that any vehicle can be loaded so high that the wire can be cut? No; not if the wire is kept about 19 feet above the ground. I think it would be perfectly safe.

1028. You have thought that matter out? Yes.

1029. Could you give any idea as to what it would cost to extend the electric power if it became necessary to universally adopt this system in the city. For instance, if it were introduced into Pitt-street or York-street, is there any definite basis on which you can calculate what it would cost to extend the service? You could reckon it if you knew what the service would be.

1030. Supposing that by-and-bye it was found desirable to lay down an electric tram in Pitt-street, and an electric tram in York-street, would that necessitate the supplementing of the power at Rushcutter's Bay? Yes; you would require power for each division. The power proposed to be provided for the George-street tramway would allow of some margin, but still it would not be sufficient for working another line in Pitt-street or another line in York-street.

H. Deane, Esq. 27 Mar., 1896.

1031. Not for any extension? No.
1032. Then if an extension were necessary the cost *pro rata* in providing power would not be so great as it was in the first instance? No; if you require a small amount of power you have to duplicate, but if you have a larger amount of power, with, perhaps, a spare machine, it would be quite sufficient, so that the proportionate charge does not amount to the same.
1033. As regards the overhead system, you have stated that you have not the slightest doubt as to its capacity for carrying the proposed traffic? Yes.
1034. You have based that statement very largely upon your experience in other countries? Yes.
1035. I have before me a publication of, I think, great weight in the engineering world. I will read a passage from *The Engineer* of 1st November, 1895, to show that there is a certain amount of doubt about the overhead system. The article is headed "Electrical Traction in the United States," and after referring to matters of detail, it goes on to say:—

> Evidences of change in this direction are not wanting, and there is little doubt but that some of the overhead lighting traction and telegraph companies are about to have a bad time of it. Thus it is stated that open war has been declared between the city authorities of one large city and overhead wires of all kinds. The various electrical companies, fearing that the town Council would move for an injunction, have forestalled it, and moved for an injunction to prevent the Council from making an order to remove all overhead wires to conduits. It seems to be understood, however, that this is but a device to gain time, and that the overhead wires must go. Popular opinion in such matters moves very slowly, but, like the mills of the gods, it grinds very fine. The overhead wire and the trolly have been found essential. In this country, town Councils have been denounced as "absurd conservatives, opposers of progress," and so on, because they told the electricians that if they wanted to run tram-cars by electricity they must find another way of doing it. A trolly has had a very fair trial in the United States. It has been successful in augmenting the income of the United States Patent Office very sensibly. The system began modestly with unbarked pine poles on the outskirts of the towns. It has progressed inwards. One of the first evidences of its decaying popularity was the substitution for the pine poles of ornate columns, with decorated arms to carry the wires. The intrinsic merits of the system were found, even in the United States, to want backing up by concessions through the demands for the beautiful. And now, at last, we are told that the trolly must go. In various towns it has been voted a public nuisance. New Orleans is one, Augusta is another; others will follow. It is not for nothing that so powerful an organisation as the Westinghouse Electrical Company has taken up the Washington system, illustrated in our issue for 7th December, 1894, and since improved by the Westinghouse Company. It has been very fully tried in the United States. The trolly was originally made in Germany. We venture to think that the men of the United States can produce something better. The conduit system has never had a fair trial yet, because so long as the public will tolerate the trolly there was not sufficient stimulus to try anything else. We venture to predict that a succeeding generation will look on the overhead wire and the trolly much as we do at Puffing Billy or Locomotive No. 1.

1036. You see that there is a doubt thrown upon the overhead system by the writer of this leading article? I have heard of that article. The doubt that is there pointed out is not as to its commercial value or its success, nor as to the value of the overhead wire as a conductor of electricity, but as to whether it is a proper thing to have overhead wires running through the streets. That, of course, does not express any doubt as to the suitableness of the system for conducting the traffic, or as to whether it will pay or not. It is the æsthetic question, as to whether overhead wires should be tolerated. Now, it is a very curious thing that in spite of the opinions of the writer in *The Engineer*, who undoubtedly is pervaded by the same spirit which has blocked electricity in so many cities in England, this overhead system is making advances; that in Chicago which is one of the largest cities in the United States, and which probably not many years hence will be the largest, they have introduced about 100 miles of overhead wire within the last eighteen months (I am not quite sure if there are not nearly 200 miles); and that in conservative England they have recently opened a line on the overhead-wire principle in Bristol. There is one already in Leeds, outside the city, and it is proposed to erect one right through the heart of the city. There is the South Staffordshire line which I mentioned in my report. There is one in the Isle of Man, and recently there has been one projected, and I believe completed, in Dublin. On the Continent, where they certainly pay a great deal of attention to appearance, many of the principal cities are largely provided with electric tramways on the overhead system. Even in the smaller capitals like Stuttgart, they have gone in for it extensively, and they have certainly gone to some expense to make it as little objectionable as possible. At any rate they have done it, and they perceive that the advantages of this particular system so outweigh all disadvantages, that I think on the Continent generally you will find there is no hesitation about the matter at all. I should doubt very much whether you would ever find that in the boulevards of Paris the overhead system will be adopted. Still, I would not like to say that it never will be. It may be the same with the Ringstrasse in Vienna and in some other places, but there are a great many very important and beautiful cities on the Continent that possess tramways on the overhead-wire system. Milan is a notable example.
1037. Showing that the system has spread largely, not only in America, but through Europe, and is now spreading through the United Kingdom? Yes.
1038. In the early days of the overhead system, was it not the practice to have a net-work of overhead span-wires? Yes.
1039. And is it possible that the objections raised so largely by the writer in *The Engineer* may apply to that system which is not only a source of danger but a great eyesore in any city? I think it is very likely. When these tramways were first made, there was very little care taken to reduce the unsightliness of these points, for instance, at curves it is very difficult to do without a certain number of span-wires. But in America they used to be altogether careless as to the matter of appearance. Every one had a right to run a telegraph-wire from house to house, and the sky looked like a cobweb. They have got past that stage, and I saw many nice examples of the overhead system in America, even although they had not paid so much attention to it as they do on the Continent, and it is quite unobjectionable.
1040. The proposal to erect a centre-pole and brackets, with a number of span-wires just at one or two corners will, to a very large extent, do away with the objection which used to apply to the overhead Thomson-Houston system, a system of span-wires for suspending the traction? There is no doubt about it.
1041. You do not approve of the general system of span-wires? No; I prefer centre poles, which are much more sightly.
1042. And which are more easily controlled under any contingency which may arise? I think so, undoubtedly.
1043. You have had an opportunity of seeing other systems in all the principal cities in the world, and the result is that you recommend the one as per diagram, with a centre pole for a double line of tram? Yes. That diagram shows a very simple pole. On that design you could have any amount of elaboration.

H. Deane, Esq. 27 Mar., 1896.

1044. Are you in a position to give the Committee an assurance that this work can be carried out for about the sum you have stated? If the scope of the work is not enlarged, and there are no difficulties put in the way of keeping below the sum, I certainly am of opinion that that estimate is a fair one.
1045. The work could be carried out for that sum as nearly as possible? I believe it will cover it.
1046. I wish to direct your attention to the enormous increase that took place on the recommendation to the Public Works Committee in the case of the Ocean-street cable line;—at the time you gave evidence before the Committee, you were positive in your own mind that the work could be carried out for the amount proposed. The Committee adopted that amount, and the work cost nearly £100,000 more than that sum? It cost twice as much.
1047. It is natural that this Committee should require a most positive assurance from you, as head of the Construction Branch, that a mistake of that kind is not likely to occur again. I should be very glad to hear how it came about that your estimate was so largely increased? With regard to the George-street tramway, I am perfectly satisfied with this estimate. For that which I stated I take the responsibility. I mentioned the other day that the feeder cable and the motor cars were estimated by Mr. Elwell. With regard to all the rest—the bulk of the sum—I am quite prepared to say that it is quite sufficient. As regards the Ocean-street cable tram, I think the Committee, seeing how largely the estimate of the cost of that line was added to, have a perfect right to draw a comparison. Last year I made an explanation to the Minister of the reason why that tramway cost such a large amount of money, and I believe the papers in connection with that explanation have been laid upon the table of the House. I have a statement which is somewhat fuller than the one I handed to the Minister.
1048. The Committee would be very glad to hear your statement? I wish to mention first that the total cost of the cable tram, including land, has been £169,847 8s. 5d. The land and legal expenses amounted to £12,490 3s. 6d., leaving the net cost of the works as £157,359 4s. 11d. When I made my estimate of £80,000 I said the matter had been gone carefully into. So it had, and so far as one could tell, it was a fair estimate. I would not like to depart from that; as far as the light went which we could obtain on the subject at the time, £80,000 seemed to be a very fair estimate, but still it was not quite enough. However, if circumstances had not arisen to run us into expense, in directions which could not have been foreseen, I still believe the line would have been made for a little over £80,000.
1049. It would appear that there were several items of expense which could have been foreseen by the Construction Branch? Yes.
1050. That there were several small items which appear to have been overlooked in the estimate; among the items I see, "Rails, £5,000; brakes, £1,118; patent, £3,000; extra size of car-sheds, £1,000; caretaker's cottage, £400";—I presume these items were not provided for in the original estimate? No.
1051. And, consequently, taking that portion of the expenditure into consideration, you exceeded your estimate by more than the statutory allowance of 10 per cent.? Yes.
1052. Nearly 20 per cent. for these items alone? Yes.

John Macpherson, Esq. (Messrs. Holdsworth, Macpherson, & Co.), sworn, and examined:—

J. Macpherson, Esq. 27 Mar., 1896.

1053. *Vice-Chairman.*] You are a member of the firm of Holdsworth, Macpherson, & Co., George-street? Yes.
1054. *Mr. Clarke.*] Are you of opinion that an electric tram from Circular Quay to Harris-street is necessary? I think it is very desirable indeed. I think it is almost a necessity.
1055. From the Old Queen's Wharf to nearly as far as Barrack-street, George-street is very narrow, and the traffic is very heavy, and do not you think this tramway would be dangerous to the travelling public and to the ordinary traffic? I have thought that matter over. I think it would rather facilitate than impede the traffic. It would regulate the traffic, and relieve a great deal of the present congestion.
1056. In what way would it be a benefit? A great many of the 'buses would not run at all. The present 'bus traffic is not at all adequate to the requirements of the city. If the 'buses were taken off the street, as a great many of them would be if an electric tram were built, this congestion would be removed.
1057. Are you aware that the 'buses from all the suburbs compete successfully with the steam trams? Coming from Waverley on the tram I frequently see a 'bus racing against a tram. Once or twice I was nearly run over myself, and I believe some people were run over. It is a very dangerous practice to indulge in. The 'buses are competing in a sense with the trams.
1058. I understand that the 'buses are competing successfully with the steam trams, and that 180 'buses are employed running to the suburbs? Every morning from Charing Cross you will find the 'buses with all the young men coming into town. The 'buses are competing in that sense with the trams.
1059. Are the 'bus fares cheaper than or the same as the tram fares? The fares, I believe, are now the same on our line. I think the question is not whether the 'buses are able to compete with the trams, but whether the public are having the conveniences which they ought to have.
1060. You think an electric tram in George-street will do away with all the 'bus traffic? No; with a lot of it. Take my own case. Many times during the week I hire a cab before I would go into a 'bus. Scores of times I walk from Bridge-street to Market-street, and I know there are hundreds of people doing the same. Rather than go into a 'bus they will walk all the way to Market-street. With a tramway in the street that would not be done.
1061. Have you considered this difficulty, that in the narrow part of George-street, say, close to your premises, a double line of tramway would leave a very short space on either side of the track for vehicles to load or unload at the various places of business? Yes; but what do I find now? Only yesterday I saw five or six 'buses running to and fro at the same moment, go past our place. If there was a tram in the centre of the street, I presume a number of these 'buses would not be running at all. It would not interfere with the loading or unloading so much as the present traffic does. The traffic with the 'buses is absolutely congested in that particular spot.
1062. Even without the 'buses, do not you think with a free way of 9 or 10 feet between the kerb and the tramline on either side of the street, it would be almost impossible for drays to deliver goods to the various stores, or to load goods at the various stores? Very few drays load in front of warehouses. It is very seldom you see a dray in front of our place. I suppose the same thing applies to other places all the way up George-street. Very few drays load or unload in front of a warehouse.
1063. Have you a back entrance? Yes; of course there are parcel deliveries and light traffic occasionally in front.

J. Macpherson, Esq.
27 Mar., 1896.

1064. Are you aware that a great many business houses in George-street have not a ack entrance? I am; but even then I do not think that there would be any difficulty in the matter. I think there would be room enough.
1065. It is intended, I believe, to run a two-minutes service;—how would it be possible, in many cases, with congested traffic for vehicles—whether drays, 'buses, or private vehicles—to get from one side of the street to the other without running considerable danger? There may be some danger in doing that; but I presume the same thing obtains in other parts of the world where the streets are not wider than the streets of Sydney. I think the running of the trams would minimise rather than increase the danger.
1066. There is some danger likely to be encountered in that narrow street, with three or four 'buses passing at one time, and cabs running too? I do not think the danger would be more with the trams running than it is now. I do not say that there might not be danger there; I am not competent to say that.
1067. It is proposed to erect poles in the centre of the street from Park-street to the Railway station, and thence down Harris-street, and in the narrow portions of George-street to erect a pole at the kerb;—do you not think that the central pole, although it may be guarded to some extent, will be rather dangerous to vehicles;—should a horse happen to run away, is there not likely to be a source of danger there? I would not like to express any opinion on it. It is possible that there may be some danger there.
1068. Are you aware that business people generally are in favour of the construction of an electric tram? I have not met a single one who is not in favour of its construction. One of the great drawbacks to business people is the noise. In our front shop nearly the whole of the day we cannot hear a word that is said. We are obliged to take people inside to hear what they have to say. I am a director of a leading insurance company, and although we close our windows and our doors and I sit within a few feet of the secretary I cannot hear him reading the minutes sometimes.
1069. Do you think an electric tramway through George-street would be for the public interest? I decidedly think so.
1070. *Mr. Wright.*] You are aware that the tram traffic is different from the ordinary 'bus or vehicular traffic, inasmuch as it is a rigid traffic, and cannot get out of the road? Yes.
1071. The evidence shows that from 170 to 180 'buses are plying in George-street;—that of this number forty-five 'buses are employed between the Railway Station and Circular Quay and between Harris-street, Ultimo, and George-street, presuming that those forty-five 'buses are knocked off by the electric tram, from 130 to 140 'buses will still run in the city to the outlying suburbs;—do you think the 130 or 140 'buses running in George-street, and with a double line of electric tramway in that street, would not cause a still greater congestion of traffic? I am not prepared to say that there would not be danger in connection with it. In Oxford-street there is a double line of trams, and an immense number of 'buses and vehicles. A tremendous opposition was raised to the construction of that line, and it was alleged that it would be a source of great danger. But during all these years, as far as I can remember, there have not been very many accidents in the street.
1072. The number of 'buses plying in Oxford-street is less by one-half than the number plying in George-street, and the heavy traffic in George-street is very much heavier than the heavy traffic in Oxford-street? I admit all that.
1073. You think there is danger of congestion of traffic, and stoppage of traffic? There might be.
1074. You, as a merchant, have very fine premises with a back entrance; but you must remember that many of the drapers' shops, especially about Brickfield Hill, have no back entrance, but have to take in their shipment of goods over the pavement? I am aware of that.
1075. I suppose you have seen half a dozen cases lying on the pavement, and the men taking the tops off? I have seen that.
1076. What will be the position of one or two trollies in any portion of George-street: with the rigid tram-line within 9 feet of the kerb, and a tram passing at intervals of a few minutes, perhaps at an interval of half a minute, do you not think that there will be a very great danger of a serious block in the traffic then? I can see a possibility of it; but after all, I think, if the thing comes to be worked out, the danger you anticipate will not be realised.
1077. You must remember that the distance from kerb to tram is 9 feet, that a trolly is 7 feet wide, and that you have to provide for moving traffic, besides stationary traffic? I think you are supposing an extreme case. You do not have trollies standing at every shop down Brickfield Hill.
1078. You think the traffic will accommodate itself to the altered circumstances as it has done in Oxford-street? I think it would. I am reasoning from the past.
1079. You have been in Melbourne. Often enough.
1080. You know the very fine tramway service in Melbourne? I do.
1081. Do you think we can run a double line of electric trams in George-street as they do in Melbourne, without causing inconvenience? The streets are wider in Melbourne.
1082. Considering that George-street carries a much larger traffic, and is narrower, do you think we can run a similar service without causing inconvenience or interfering with the traffic? I think the traffic would accommodate itself to the circumstances of the case. I do not think there would be so much difficulty about it as either you or myself may see now.
1083. You spoke of the congestion of traffic opposite to your place, just now? Sometimes there is.
1084. Are you aware that not one-half of the 'buses go past your door? I am.
1085. Are you aware that more than one-half of the 'buses turn out of George-street into Wynyard Square? Yes.
1086. If you have a possible congestion of traffic opposite your place, with only one-half of the 'buses running down to Circular Quay, what will be likely to obtain further up the street where the street is no wider, with a double 'bus traffic and the tram traffic? When I say there is a congested traffic I do not mean that there is a block. You see two or three 'buses and two or three drays there at a time.
1087. If the traffic opposite your place were doubled by doubling the number of 'buses, and if you had a double line of electric trams running along the street, do you think there would be any danger of the stoppage of traffic there? Possibly there might. I think that if there were a double line of 'buses and a double line of trams, there would be some danger of a momentary stoppage.
1088. Do you think it would be a severe strain on the traffic of the street? I do.
1089. But you think the tram would be a benefit to the city and a convenience to the inhabitants? That is exactly what I think.
1090. But you do not consider yourself sufficiently expert to say what effect it would have on the very large volume of traffic in some parts of the street? No.

William

William Newman, Esq. (Messrs. David Jones, & Co.), sworn, and examined :—

W. Newman, Esq. 27 Mar., 1896.

1091. *Vice-Chairman.*] You are a member of the firm of David Jones & Co., George-street? Yes.
1092. *Mr. Hassall.*] How long have you been with the Company? About thirty-four years.
1093. Where is your place of business situated? At the corner of Barrack-street and George-street.
1094. What business do you carry on? General drapery, outfitting, furnishing, and clothing—all the articles that are generally sold by a large shop.
1095. How long has the business been established? Since 1838.
1096. I suppose you have a good many carriage customers? Yes; a great many.
1097. Do they shop at any particular time? They shop from 10 to 4 generally, or perhaps 5.
1098. Do you think this electric tramway would assist to injure your business? I am under the impression that, from Circular Quay to the Town Hall, the street is too narrow to admit of a double line of tramway, and that it would seriously impede the convenience of carriage customers coming to our shop.
1099. Your shop and other shops lower down the street? Yes.
1100. Peapes and Shaw have a large establishment about 50 yards lower down the street;—is the street at that point as wide as it is opposite your shop? I think it is exactly the same width.
1101. Is George-street one of the main traffic routes of the city? Yes; the main traffic route.
1102. For both light and heavy traffic? Yes.
1103. Have you noticed many lorries or wool drays travelling down the street? A great number. We have thought that, for the convenience of the carriage traffic, and other vehicular traffic, the lorries and wool drays should be diverted into another street.
1104. In your opinion, the law requires to be altered to enable this traffic to be controlled? Yes; and to keep the heavy traffic out of the main business street.
1105. I suppose you are under the necessity of loading and unloading large packages of goods? A great number.
1106. Where do the vehicles stand, as a rule, when they are delivering the goods? At the side entrance in Barrack-street. We have a special dock for the carts to come in and discharge.
1107. Running back into your own block of buildings? Yes.
1108. Have you noticed that in George-street loading and unloading takes place in front of the business houses? Yes; that is the impediment to the lighter traffic. It blocks the way frequently.
1109. Supposing a lorry were standing on one side of George-street, between the Post Office and King-street, and another lorry were standing on the other side of the street, how much room would they occupy? I should imagine that with the space at their disposal no other vehicle would be able to pass.
1110. Would each lorry take up about 8 feet? From 7 to 8 feet.
1111. According to the plan there, George-street is 43 feet wide opposite your shop, and the distance from the tram-car to the kerb on either side is 12 feet, so that with a lorry standing on one side of George-street at that point it would be practically impossible for any other vehicle to pass between the tram-car and the lorry? Yes.
1112. It would be dangerous? It could not be done.
1113. From your knowledge of the traffic in George-street, do you, as a business man of many years' standing, think it is advisable to place further obstruction in the way of the vehicular traffic? I do not think it is advisable to lay down a double line of tramway.
1114. Do you think the street would carry a single line of tramway? I think it would.
1115. In the event of taking the single line down George-street, and wishing to make a circuit back to the Railway Station, what alternative course would you suggest? Pitt-street.
1116. It is narrower than George-street? It is a little narrower, but I do not think it is practicable to have a double line in George-street, and to maintain anything like the present traffic. It would seriously impede the carriage and light traffic. It would inconvenience people driving in carriages, gigs, and buggies.
1117. The City Council have gone to a great deal of expense to make George-street practically a perfect street to drive on? Yes.
1118. You think a double line of tramway would injure the business houses along the street to a certain extent? Yes.
1119. Have you any knowledge of the Harris-street traffic? Not much knowledge of that traffic.
1120. Practically, your knowledge of this route is confined to George-street? Yes.
1121. Do you think the 'bus traffic along George-street practically answers requirements, or would a tramway service be more convenient? I can imagine that a tramway service for persons going short distances would be more convenient than a 'bus, because the trams are more regular than the 'buses.
1122. And would be patronised pretty largely by the travelling public? I think so.
1123. Do you think it would have the effect of driving some of the vehicular traffic off the road? I think it would.
1124. Thirty-five or 50 per cent.? It would be from 25 to 50 per cent.
1125. Do you think the tram would interfere much with the cab traffic? It might on wet days. There is more room on wet days than on dry days.
1126. Do you think that with covered tram-cars the public would take advantage of them rather than patronise the cabs? They would if they were just going along George-street.
1127. Supposing they were going to the railway station? They would take the tram.
1128. That would probably drive half the 'buses off the route? It might.
1129. And that to a certain extent would relieve the congestion of traffic? To a certain extent.
1130. You think it is advisable to take a single line down George-street and return with a single line up Pitt-street, and come into George-street to the Town Hall? Yes; that has been my opinion from the first. If this electric tram is to impede the introduction of the railway into the city, as I imagine it will, I think there are more serious objections to it still. For the public convenience the railway should be brought into the city. It would both be a saving to the public and a great convenience. We have to pay 4d. per day to go to the railway and back, and for the same money we can travel 5 or 6 miles on the railway.
1131. In your opinion, is it more advisable to construct the city railway than the electric tram? I think it is altogether more advisable to extend the railway into the city—and the time is opportune now both for purchasing property and employing men—than to construct a tramway.
1132. You do not think it would be necessary to construct the two? No.

W. Newman, Esq. 27 Mar., 1896.

1133. *Mr. Wright.*] If railway experts have stated in their evidence that even if the city railway be extended to Port Jackson, they would still recommend the construction of this tramway as a convenience to citizens, what would you say to that proposition? I should say a tramway would be a great convenience whether the railway went into the city or not. Viewing the tramway apart from the dangers and narrowness of the street, it would be a great convenience.
1134. You think that even if the city railway is constructed it is possible that the tramway would be an advantage and a paying concern? With a single line in one street.
1135. If you thought that your advocacy of this tramway would be prejudicial to the extension of the city railway, would you oppose the construction of this tramway *in toto*? Yes.
1136. Is that opinion shared by many citizens? It is entertained by all I know who have considered the question.
1137. I understand that a large section of the community, if it were known that this tramway would be the means of retarding the city railway extension, would offer a strenuous opposition to the proposal? I think public meetings would be called to oppose the tramway.
1138. *Mr. Lee.*] George-street opposite to your warehouse is rather narrow, and in consequence of the nature of your business, which is very largely a carriage business, you object to any obstruction in George-street? Any undue obstruction.
1139. Would it not be possible to accommodate the carriage traffic in Barrack-street? The carriage traffic sometimes occupies Barrack-street and George-street.
1140. Having in view the great public convenience it would be to the community as a whole, do you not think the question of carriage traffic would be a minor one? I am obliged to view the subject in relation to the requirements of our own business.
1141. You are speaking from a personal point of view? Yes.
1142. If the traffic in George-street were so ordered that only ordinary passenger vehicles and light vehicles would be allowed to travel there, would it not remove your objection to a very large extent? To a very large extent. But as long as the 'buses and the drays and the general heavy traffic are allowed to go along George-street, I should say that a double line of tramway would be too much for the street to carry.
1143. In that respect you confirm the evidence which Mr. Pomeroy, a member of your firm, gave before the Committee in 1890? I do not know. I have not consulted Mr. Pomeroy. He is not in the firm now, but I meet him daily.
1144. Although it might be a convenience to your business, if it were shown that it would be a convenience to a very large section, you would not oppose it on the ground simply of its interfering with your business? No; although it would be a serious question for us, as a firm, to consider.
1145. Is it not a fact that additional facilities for the public to get into the city increases the business in the city? Yes. It was noticeable that when a tram ran along Pitt-street some years ago the carriage traffic went out of Pitt-street to avoid as much as possible the danger which was then run with the trams. The traffic was not nearly so large then as it is now.
1146. It was taken up because it used to pull the wheels off the vehicles, but the modern kind of construction is so different that there is no danger of that kind to be feared? I can quite understand that.
1147. After all, you offer no serious objection to this proposal, provided that other things dovetail into it, such as the proper ordering of the traffic;—the centre poles in the street, and the running of the cars in the centre of the street will, to a certain extent, necessitate an altering of the traffic? Yes.
1148. And consequently it will remove your objection to a certain extent? Yes.
1149. You will admit that no kind of street traction, no matter what it may be, can be free from that objection on the part of business people? I freely admit that.
1150. You would give a trifle to get rid of the terrible noise in the street? Yes.
1151. If the tramway brought about an alteration in that respect, it would do good? As long as it did not interfere with carriage and light vehicular traffic.
1152. If the street were a little wider opposite to your place, you would not offer any objection to the proposal? If it were as wide as it is at Brickfield Hill, there would not be any objection at all.

TUESDAY, 31 *MARCH*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

William Douglas Bear, Esq., Superintendent, Metropolitan Fire Brigades, sworn, and examined:—

W. D. Bear, Esq. 31 Mar., 1896.

1153. *Mr. Roberts.*] You know that it is in contemplation to construct an electric tramway from a point on the Circular Quay along George-street to the railway station, thence along Harris-street to Pyrmont? Yes.
1154. Are you aware that it is also in contemplation to adopt what is known as the overhead system? Yes.
1155. Have you seen that system in use in any part of the world? I have not.
1156. But are you familiar with it? I am conversant with it.
1157. Do you think that overhead wires would interfere to any serious extent with the work of your brigade? The overhead wires would be bound to interfere with us to a greater or less extent, just as the present telegraph wires do; but it would be easier to cut the stretchers with a pair of nippers than it is to cut the present telegraph wires. At the present time it would take a quarter of an hour to cut the telegraph wires in front of some of our warehouses, and in that time a building might be gone. In many cases

W. D. Bear, Esq. 31 Mar., 1896.

cases the tall poles and the telegraph wires prevent our ladders from touching the walls of a building. With regard to the overhead electric tramway wires, however, all we should have to do would be to carry nippers and to cut them. The voltage of these overhead wires, however, would be a greater nuisance to us, and in wet weather, or when a great deal of water was being used, might disable our men.

1158. Have you often had to cut the present telegraph wires? Very seldom. In some cases the telegraph wires assist us, because we are able to lean our ladders against them and fire away.

1159. It would only be the work of a second to clip an overhead wire, and you could then work without inconvenience? Yes. I have taken the measurements shown on the plan, and I find that the stretchers are from 18 to 20 feet above the roadway.

1160. What is the result of the consideration that you have given to this matter? I consider that we should do wrong to stand in the way of the city. Whatever may come forward we are bound to have to fight it, and I would sooner fight an overhead wire system than I would fight an underground wire system such as I have seen in San Francisco.

1161. You are of opinion that the overhead system is superior to the system you saw in San Francisco? From what I have read of it I am positive that it is.

1162. Because you would be able to grapple with it at once? Yes. My experience by reading about the old country with reference to underground wires, was that if not properly insulated the soakage from them interfered with the water-pipes and the gas-pipes, and I am informed that that is so right throughout America.

1163. I suppose you are frequently in communication with all parts of the world? Yes.

1164. And the Committee may accept it as your opinion that the overhead system is superior to the underground system? I should not like to express that opinion, because I know that some of the American cities are greatly prejudiced against the overhead system. The fire brigades in particular object to it, because they are not able to work their water-towers and ladders as they would like to do. I am of opinion, however, that we must deal with difficulties as they arise, and I take it that if every ladder carries a pair of the ordinary long 8-ft. nippers, we shall be able to cut the stretchers and get the wire out of the way. The only difficulty, as I said before, is with regard to the voltage. At the present time, in wet weather, when dealing with telegraph wires, the men often have to drop everything, and, of course, then you are likely to lose the ladder, or even a man's life.

1165. *Chairman.*] That is because the electric current is conducted right into the man's body? Yes; it goes right through the man, and then on to the ladder again, and so to the ground. This happens more especially when it is wet. The moment the man clutches the ladder the current runs through him, or if he touches the iron lever, and consequently he is powerless, unless he insulates himself by using the tails of his coat or something like that to catch hold with.

1166. But you mentioned a further difficulty in regard to the nipping of the wires? At the present time we carry a pair of nippers to cut the telegraph wires, and we should have to carry special long nippers with indiarubber handles for these stretchers. I take it that if the ladders were to touch the electric tramway wire in wet weather the men on them would not be able to do anything, because the voltage would be so great, consequently we should have to cut the stretchers, so as to let the wire get out of our way.

1167. *Mr. Roberts.*] I understood you to say that there is danger from the voltage of the telegraph wires? Yes.

1168. You do not view the extra danger from the voltage of this tramway wire with alarm? No.

1169. And as Superintendent of Fire Brigades you offer no opposition to the construction of the proposed line? None whatever.

1170. *Mr. Wright.*] You have had no experience of electric tramways? None whatever, except what I have seen in America.

1171. You saw the conduit system in use in San Francisco? Yes.

1172. Did you make much inquiry about it there? The system was only just coming into use when I left, but the great difficulty in connection with it I understand was that the conduit got blocked up, and the current then ran to the iron rails.

1173. Did you place yourself in communication with the Fire Brigades office there in connection with the matter? I went to the Fire Brigades office, but not in regard to this matter.

1174. You heard nothing else against the system? No; except as to the cost of it. They were sinking all the gas and sewerage and water pipes away from the conduit.

1175. But they now claim that by having a return wire to the station they prevent any break in the circuit? But if you touch the wire and make earth yourself, you are bound to receive a shock from the current.

1176. I understand that at present when you rest your ladders against the telegraph wires, your men are sometimes rendered inefficient, because of the current? Yes.

1177. With this tramway system there would only be a small number of wires which would not affect you at all? The wires will be bound to interfere with the ladders in the case of large fires, because these ladders are 33 ft. long, and in being hoisted would be bound to catch the straining wires.

1178. But when in position they would not rest against these wires? No.

1179. If the wires were carried along near the kerb-stone the ladders would rest against them? Yes.

1180. How would you deal with the difficulty? By cutting the straining wire.

1181. Would not that stop the tramway service for the time being? Yes.

1182. So that the whole service might be stopped because of a fire in George-street? Yes.

1183. You have no stronger objection to the proposed overhead wires than you have to the present system of telegraph wires? I have not so strong a feeling against them.

1184. Provision has been made to carry the whole of the telegraph and telephone wires in George and Pitt Streets underground;—that will do away with a great deal of difficulty? Yes.

1185. And you do not apprehend much difficulty from this overhead wire? No.

1186. Do you think the conduit system would be better if a perfect return were obtained? Undoubtedly, from my point of view.

1187. It would be better for the fire brigades? There are a good many opinions in regard to that matter. The *Engineer* in some of its articles speaks very loudly about the soakage destroying the water and gas pipes.

1188. But it would be more convenient for the general public, and better for you, if the wires were placed underground? Such a system would be very costly, but it would prevent interference with us.

1189. *Mr. Trickett.*] Would the proposed tramway interfere with the working of the Fire Brigade Station near

W. D. Bear, Esq. 31 Mar., 1896.

near the Circular Quay? No; of course they would have to take greater care in turning out, but many of the main stations in London have much narrower streets to turn out into.

1190. George-street from Queen's-place pretty well up to Park-street is rather narrow;—would two tram-cars abreast there interfere with the progress of a fire engine? Well, we should either have to wait for them, or they would have to wait for us; but I do not see that the difficulty would be very great. Of course when we are at work on a fire it will be impossible for the trams to run. Under the present system of water supply, which I got the Water and Sewerage Board to carry out, our hydrants are connected with the mains under the pavements on both sides of the street, and directly we get two or three hydrants at work from opposite sides of the street the trams will have to stop. I do not see, however, that the running of the trams will interfere with the progress of a fire engine on its way to a fire. We can now get to any part of the city in three minutes. In six minutes I can have six steam fire engines in any part of this city.

1191. Mr. Deane suggested that before the tramway wire was cut in case of fire, the current could be turned off in some way;—I suppose that if that were done it would simplify your operations? It might do so in some cases, but I think that in the excitement of the moment it would be found that we should have to cut the wires first. When life is in danger, and five or six people have to be got out of a building, you cannot stop.

1192. I think the proposal of the Department is that there should be some ready way of turning off the current at frequent intervals along the street;—that, I suppose, would facilitate your work? Yes; I have heard about that, but there would be great danger of accidents if the whole tramway system were suddenly stopped. One car might run into another, and so on. At the same time, when you read up about what has been done in many other cities, you do not find that there have been many accidents.

1193. At all events, you do not anticipate any trouble in connection with this tramway system? I know that we have to face trouble, but I do not expect tremendous trouble. Our ladders are not nearly so long as the ladders they use in America, although they can be taken as high. We travel, as a rule, with 33 feet, whereas in America they travel with 46 feet; but our ladders go to the same height as the ladders in America—80 feet.

1194. In some parts of George-street it is proposed to put up standards—the wires being carried on projecting arms;—do you think that would be a good plan? That would cause no interference. My largest ladder travels 12 feet 6 inches high at the end, so that I would be well underneath this tram wire. Then in the wider parts of George-street there would be 12 ft. of clear space in which to travel, hoist, and turn round. As my largest ladder is on a turntable, I could hoist it to a certain height, and then turn it and get it right up without interfering with the wire. Where the stretchers go right across the street we could cut them and go on with our work without interfering with the current-wire.

1195. But when you cut the cross-wires would not the current-wire fall to the ground? It would sag; but I do not think it would fall to the ground.

1196. Might it not sag so low as to touch people on the ground? Yes, it might.

1197. That would be very dangerous? Well, Mr. Elwell told me that the voltage would not be enough to kill anyone, though it would give one a great shock.

1198. Do you think that you would be likely to have to cut more than one of the cross-wires? I do not think so. I have been here close on twelve years, and I have not had to cut the telegraph wires more than half a dozen times.

1199. If only one stretcher were cut, the sagging of the current wire would not be very great? I should not think so. Then, again, there are fire-alarm boxes at almost every 300 or 400 yards, and it would be easy to go to one of these boxes and give notice of a fire. The moment notice was given to any of the fire stations it could be sent on to the power station, and the current could be cut off at once. In this city you have an advantage which you have nowhere else in the world, in being able to go to these boxes and communicate with any part of the city, right up to Parramatta.

1200. *Mr. Fegan.*] How long have you occupied your present position? Eleven and a half years.

1201. Have any of the men under you been killed during that time? Three or four men have been killed since I have been here, but not by electric wires.

1202. Were any of those deaths attributable to the telegraph wires being in the way? No.

1203. *Mr. Hassall.*] Could not some precaution be taken against the danger arising from the electric current by putting non-conducting material upon the ladders? No; because it is the water that carries the current, and if you were to put the best non-conducting substance upon the ladders—and it would not be possible to do that—you would have the current transmitted by the water or rain running down them.

1204. Then the danger arising from contact with the current will always remain? Yes. The greatest trouble I have had in dealing with electric wires was at a fire at McLean Bros. and Rigg. I do not know whether they were using a greater amount of battery power that day—in fact, I should not think they were; but it was raining, and I had about twenty men on the ladder at one time or another before we could get it hoisted into position, because of the electric current from the wires. The lever of the ladder is iron, and directly the rain got on to it the current made earth and came right through. We reckon that it is a worse job to handle ladders when telegraph wires are about than it is to deal with chemicals such as jalap, salt-petre, and so on. The current takes all the strength out of the men.

1205. What height are your ladders when running? One runs to a height of 12 ft. 6 in., the other 12 ft. 1 in. Allowing for the springing and jerking in transmission from ½ foot to 1 foot, I should say that 13 ft. would be sufficient.

1206. If the wires were carried on standards erected in the middle of the street the fire engines or ladders could go along on each side without being interfered with? Yes. At the present time, I might mention, many of the telegraph wires are only 15 ft. above the pavement, although the Act says that they should be 18 ft. above the pavement.

1207. If the wires were carried on standards they would cause no obstruction to your ladders? No.

1208. Obstruction would be caused only by wires stretched from one side of the street to the other? That is so.

1209. And you could go under such wires? Yes; though when we got to the scene of the fire we should have to cut one or two of them.

1210. Perhaps you would have room to raise your ladders without cutting the wires? I think that in most cases we should not have to cut them. Our ladders are in three sections. In America the ladders are in two sections of 40 ft. each as a rule, but we carry our ladders in three or four sections, making a shorter length to run through the streets.

Paul

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, sworn, and examined:—

P. B. Elwell, Esq. 31 Mar., 1896.

1211. *Chairman.*] You have a full knowledge of the scheme before the Committee? I believe so.
1212. Do you desire to make a statement to the Committee? I have a few notes which I should like to read, and which I think may facilitate inquiry into the technical electrical points of this scheme.
1213. Have you treated the question under headings, dealing with it from various points of view, such as the engineering point of view, the traffic point, and the point of view of danger? I have only dealt specially with the electrical engineering aspect.
1214. What do you consider that embraces? The construction of the conductors, and of the power plant, the method of transmission from the power station to the line, and the construction of the motors and cars which it is proposed to run.
1215. Have you entered at all into a comparison between this system, and the conduit system, and others? I have studied all possible systems of electrical traction.
1216. Have you entered into the consideration of traffic? I have considered that matter in making my enquiries.
1217. Are you prepared to deal with it? Yes.
1218. Can you advise us with regard to the question of danger? Yes.
1219. Can you give the Committee information with regard to cities in other parts of the world where electric trams are in use, as to the width of the streets there, and the nature of the traffic in the streets? I have some information with regard to that matter.
1220. Will you read your statement? Yes; it is as follows:—

Note on the Electrical Working of the proposed George and Harris Street Tramway.

It is proposed to operate this tramway by the overhead electric system in its most improved form, and to obtain the necessary electric energy from the existing power-station at Rushcutter's Bay.

The diagram shows the general arrangement of the station, the black lines indicating existing plant and machinery, and the red lines the proposed additions.

The latter would consist of three combined sets of engines and slow-speed generators, each of 200 kilowatt capacity (300 horse-power), connected with the existing boilers, which would be increased in number by two. Two of the combined sets would be in daily use, the other being held in reserve.

The current from the generators would be first led to a main switchboard of marble panels, where the necessary measuring and controlling instruments would be fixed, and, from this switchboard, the current would be led by two copper cables well insulated and protected from injury by steel armour, laid underground (say) *via* Barcom-street, Campbell-street, Belmore Park, and the Benevolent Asylum, east boundary, to the Railway Station. A common return conductor of very low resistance would also be laid on the same route.

At the Railway station would be fixed the accumulator batteries, referred to further on, and from this point the proposed tramway would be supplied with current.

The general arrangement of the overhead wire would be as follows:—

At Circular Quay, ornamental cast and wrought iron columns, surrounded by a granite base serving as a refuge for pedestrians crossing this wide thoroughfare, would be erected, and two single hard-drawn copper wires, one for the up and the other for the down line, would be carried at a height of 18 feet from the ground by ornamental brackets on these columns. The arc lamps now used to light this part of the Quay might advantageously be placed on the new columns and the wooden poles removed.

From Circular Quay to Bridge-street, or thereabout, the pair of overhead wires would be carried by steel span-wires, at a height of 18 feet, between neat iron posts on opposite sides of the street at distances of about 120 feet. Or the span-wires might be attached to the house-walls by ornamental rosettes such as may be seen in many Continental cities and, more recently, in Coventry (England). Poles would not be required in this case.

Along the remaining portion of the route similar posts and brackets to those designed for Circular Quay might conveniently be used, the roadway being of sufficient width to allow of posts being placed in the centre.

Accumulators.

An important feature in the proposed electric tramway is the use of accumulators or storage batteries for the purpose of equalising the load on the steam plant at Rushcutter's Bay, economising the outlay in cables, and providing a reserve power in the event of any temporary interruption of the supply. The steam plant also can be shut down as soon as the passenger traffic for the day is over, and any shunting or light running can be worked from the accumulators. The latter also serve for lighting purposes.

The first illustration of storage batteries being used for this purpose was carried out by the Railway Commissioners in connection with the Military Road Tramway, and, since that time, the system has been introduced by the Oerlikon Company at Zurich, on two lines, by Dr. Hopkinson in the Isle of Man railways, and others. It is also being introduced in the States.

As above mentioned, the batteries of accumulators would be placed at the Railway station in any convenient spot, either above or below ground, and this would form the point of distribution of current to the several sections of the line by feeder-cables laid underground. From Circular Quay to the Town Hall might form one electrical section; from the Town Hall to the Railway station another; and Harris-street might be divided in a similar manner. Each of these sections would be operated independently of the others.

The use of accumulators is not a necessity in connection with the system, but it effects considerable economy in working.

Cars.

It is proposed to adopt a similar closed car to those now running on the Ocean-street cable line, but of larger dimensions, and with roomy platforms at the ends. A certain number of open cars, with reversible garden seats, awning, and blinds may also be used in the warm weather.

As a rule these cars would run singly at very short intervals, but, when required, two could be run together. It is proposed to construct thirty-five motor-cars for this service, each car to be fitted with two 25 horse-power single reduction motors, completely protected from dust or mud, with the gears running in oil. The starting, stopping, and reversing arrangements to be of the most convenient and economical type, and to include a power-brake to pull up the car in the shortest possible space, in addition to the usual hand-brake. The arrangement of springs carrying the car body will permit of the greatest comfort to passengers whether it be heavily loaded or nearly empty, and the time occupied in travelling from the Railway station to Circular Quay would be about twelve minutes. The cars would be well lighted at night by incandescent lamps.

Electric traction by accumulators (carried by each car, and so rendering them completely independent so long as the charge lasts) has made little or no progress in America, owing to opposing interests in the overhead wire system and the facilities with which concessions or franchises have been obtained for the latter. Accumulators are, however, about to be again tried on one of the New York lines, and the system to be adopted is practically the same as that now worked in Paris.

In Paris, accumulator cars have been working satisfactorily, from a public point of view, for some years past, and various types of accumulator and methods of manipulating them at the charging depôt have been tried, the latest being a combination of the "Chloride" negative plate with the "Tudor" positive. These are carried in one large tray or box suspended beneath the car body instead of under the seats as formerly.

But under the most favourable circumstances this system of working tramways cannot successfully compete with the overhead wire, and, unless a lighter and more durable type of accumulator is obtainable in the future, it must always be so.

Accumulators may, however, be advantageously used in conjunction with the overhead wire in a similar manner to that introduced by the Commissioners on the Military Road, and since adopted in similar cases on English and Swiss tramways. The accumulators are not carried by the cars, but are stationed permanently as a reservoir of power ready to be given out when sudden demands of traffic require it or a temporary breakdown occurs at the power-station. They are specially useful on long lines with small and fluctuating traffic, but are also of great value on city lines with continuously heavy traffic.

Prevention

P. B. Elwell, Esq.

31 Mar., 1896.

Prevention of Injurious Action upon Water or Gas Pipes.

Owing to insufficient return conductor having been provided in many cases when electric traction was first started on a large scale in America, the current passing from the motors to the rails had to make its way as best it could back to the power-station, and, where water or gas pipes afforded an easier passage than the earth, it naturally took advantage of them. This caused an electrolytic action to be set up between the tram-rails and the pipe-lines through the moist earth, and so long as the current only passed into the pipes no harm was done. But where the current had to quit the pipes and again pass through the earth to the power-station the electrolytic action corroded the pipes, and some remarkable specimens may now be seen in the historic collections of the tramway companies.

It was consequently found necessary to provide a good metallic return equal to or better than the overhead wires and feeder cables, and when this had been done, the subsequent reduction in the coal bills at the power-stations showed plainly that the tramway companies had been paying dearly for the power absorbed in corroding the pipes. Corrosion is now a thing of the past in all well-designed systems.

In England, the Board of Trade issued regulations drawn up at a conference of water, electrical, gas, and railway engineers, providing very thoroughly for an efficient return conductor in all cases.

Risk to Life caused by Overhead Electric Tram Wires.

An impression has been made upon the public mind that the current from the overhead electric tram wire is dangerous to human life, and that accidents have occurred resulting in death from shocks received. This impression has probably been caused in the first place by confusing the tramway wires with high-tension electric-light wires largely used in America, from which many accidents have occurred, and, secondly, from the fact that electric cars have been and are being driven at very high speeds without suitable power-brakes and fenders. Sixteen miles an hour is a common speed in the States, and any appliance for stopping quickly other than the ordinary hand-brake is almost unheard of. Similar danger would be caused by the steam trams in Sydney if no power-brake was used. But with a good power-brake, such as the Commissioners have introduced on the Ocean-street cars, an electric tram can be stopped in a shorter distance than is practicable with the heavy steam trams.

As regards risk from the current, there is no case on record where any person has been killed, and it has been proved times without number that the full strength of the current may be received without injury to human life. If it were not so, the English Board of Trade would not have permitted the system to be used in Leeds, Bristol, Coventry, Birmingham, and other places.

1221. You have made no mention of the effect which the construction of this tramway would have upon telegraph wires? It is usual where telegraph wires cross tramway wires to provide them with fuses, so that in case of accident the telegraph circuit would be instantly fused, and thus prevent injury resulting to the instruments.

1222. Is it expensive to provide fuses? No; the expense is very small.

1223. Are the telegraph lines affected by being in close proximity to the tram wires? Not in any way.

1224. Is it a fact that the telegraph line to Manly was so affected by the electric tram-wire on the Military Road that considerable expense was incurred in removing the difficulty? I have not heard of it.

1225. You state distinctly that the proposed electric tramway in George-street would have no effect whatever upon the telegraph and telephone wires there? It might have a slight effect upon the telephone wires, but its effect upon them would depend almost entirely upon the good conductivity of the tramway arrangements. It is found that whenever the conductivity is deficient the noise in the telephones becomes excessive.

1226. The trouble arises from defective bonding? Yes.

1227. *Mr. Lee.*] What do you mean by defective bonding? The rails for the purpose of the return current have to be bonded together by means preferably of copper cables or bars, which are riveted to the ends of the rails.

1228. *Mr. Wright.*] There must be perfect continuity? Yes.

1229. *Chairman.*] If the bonding is not effective the telephone wires and possibly the telegraph wires are affected? Yes. It is a good sign that something is wrong with the line when the telephone wires are affected.

1230. *Mr. Black.*] In some cases the rails have been welded together? Yes; that has been done to a considerable extent in America. I watched it being done myself, and they seemed to be very slow over it, but it has been very successful. I do not think the breakages, even in the coldest weather, when the strain is excessive, have exceeded 3 per cent.

1231. *Chairman.*] Can you tell us something as to the width of the streets in other parts of the world where these electric tramways are used? I measured a street in Minneapolis where they only use centre-poles, and I found that the width between the kerbs varied from 40 ft. to 70 ft., and as far as I could hear they had experienced no difficulty in working the traffic.

1232. What is the width between the kerbs in the narrowest part of George-street? Thirty-four feet.

1233. Can you give us any instance of a similarly narrow street where a tramway is worked? The Rue de Paris, in Havre, which is the main commercial street there, I found to be 33 ft. in width, and they were using a double line of rails there.

1234. What is the population of Havre? About 140,000.

1235. Is the traffic there as heavy as the traffic in George-street? Yes; in the Rue de Paris.

1236. Is there any town or city in which these trams are used in a street as narrow as George-street? They have a double line of rails in Broadway, New York, which averages 42 ft. 10 in. in width, as nearly as possible.

1237. Have you a list of the widths of the various streets in different cities in which trams are being worked, with the population and the amount of traffic in those streets? I did not measure the streets in Boston or Philadelphia; but speaking from memory, I have no doubt that in many streets there, where they have a double line of rails, the width is practically no greater than the width of George-street at its narrowest part.

1238. Would it be possible to give us such a table? Perhaps a good illustration would be the condition of Broadway at the present time.

1239. Where the width is what? Practically, 43 feet.

1240. Is that at the narrowest part? No; that is the average width of the part where the greatest traffic used to be, and where there is now the greatest traffic on the trams. It is the main artery of the city, and there is no parallel street in that part of the town.

1241. Can you tell us what is the narrowest part of Broadway? I cannot; but I will see what information I have amongst my papers with regard to the width of streets.

1242. You do not desire to use the surplus power of the engines now at Rushcutter's Bay, because there may be some extension of the cable tramway towards Woollahra? Towards Paddington.

1243. Can you tell us what scheme is projected? I do not know what scheme is projected, but I know that provision has been made in the station for another cable.

1244. What is the surplus power available at Rushcutter's Bay? It should be about 500 horse-power.

1245.

1245. How much horse-power will you require for the George and Harris Street tramway? The average power required through the working day will be a little under 300; but the maximum power required at certain moments might be over 500. P. B. Elwell, Esq. 31 Mar., 1896.

1246. Have you sufficient power at Rushcutter's Bay should you desire to utilise it? I think there would be just sufficient power.

1247. Could you utilise it? It could be utilised, but that would necessitate an expenditure almost equal to the amount required for the new machinery it is proposed to place there.

1248. Can you tell us definitely what the difference in cost would be? It would not be more than £2,000, but the present boiler-power might be fully utilised.

1249. Is that arranged for in the scheme before us? Yes.

1249½. And the only possible difference in expenditure would be £2,000 at most? Yes.

1250. You approve absolutely of the scheme before us, and state that only £2,000 at the utmost could be saved upon it, while that would virtually be a waste in view of future extensions;—you say that it would not be wise to use the surplus power you now have at Rushcutter's Bay, in view of possible cable extensions? Yes, and also in view of the possibility of electricity being used for the existing tramways. These large generators might be applied to the cable engines in the future in addition to the proposed plant.

1251. What portion of the estimate before us are you responsible for? I am responsible for the purely electrical portion.

WEDNESDAY, 1 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, sworn, and further examined:—

1252. *Chairman.*] You have some information to lay before the Committee incidental to questions asked last meeting, and in answer to a letter you have received from me? Yes. With regard to the question of the loss of power or leakage between Rushcutter's Bay and the Railway Station, I may say that in considering the transmission of electrical energy the great thing to be considered is the heating of the conductor. No electrical current can be passed through any conductor without heating it, and the degree to which the conductor is heated is the extent of the loss incurred in transmission. A cable 1 inch in diameter would heat just twice as much as a cable of double the sectional area with the same current passing through it. Consequently in the smaller cable the loss would be double the loss in the larger cable. It is purely a question as to the expense to which it is advisable to go in capital cost, in order to save working expenses. In calculating for the cables between Rushcutter's Bay and the Railway Station I allowed for an average loss of about 3 per cent; that is to say, at certain times there would be as little as 1 per cent. lost, while at other times the loss would be nearly 5 per cent. There is no leakage; the cable is practically safe against leakage. P. B. Elwell, Esq. 1 April, 1896.

1253. Is it immaterial where the generating station is placed? Immaterial apart from the cost of cables. A cable to transmit, say, 500 horse-power from Rushcutter's Bay to the Railway would only cost one-fourth as much as a cable to transmit the energy double the distance, because the latter would not only have to be twice as long, but it would also have to be twice as large.

1254. How far is it by the route you have chosen for the cable from Rushcutter's Bay to the Railway Station? About 130 chains. The cable would be 260 chains long. By doubling the voltage at the station you reduce the necessary size of the conductor to one-fourth, because double the pressure at the station sends double the quantity through the conductor with the same loss. It is purely a question of calculating suitable pressure from the point of generation to the point of distribution.

1255. What will the 260 chains of copper conductor cost? Considering the loss at an average of 3 per cent. it would cost about £3,500.

1256. Therefore, if you had the generating station adjacent to the tram-line you would save approximately £3,500? Yes, in capital cost; but if you are working other lines it depends upon how far they are distant from the generating station. The cables could be taken to the nearest point upon the tram-line, and if that were done it would be best to take them along William-street and Park-street.

1257. But which would be the best scheme? I thought the matter out and I found that the Railway Station would be far the better centre for distribution, because there is ground available there, and by adding to the accumulators we could use them for lighting the whole of the railway premises and so save our central station at Eveleigh. That saving would be considerable.

1258. Presuming that eventually electricity will be used for the whole of our tramway systems, where would you consider the best place at which to generate the power? The larger the system of tramways to be worked the less important it becomes to have the generating station at the centre of distribution, because in any case there must be sub-stations at which the electrical pressure is reduced from a high pressure distribution underground to a low pressure distribution for the overhead wires. Once you begin to use high pressure distribution—which must be done on any large system in order to save cost of cables—the locality of the central station becomes of less importance. The main point to be considered is where can the power be generated as economically as possible—that is, where can plenty of water be obtained for condensing purposes, and where can coal be obtained as cheaply as possible, not only having regard to the price, but also to the cost of conveyance from the waggons or boats to the boilers.

1259. Is Rushcutter's Bay such a place? It is not perfect, but it approaches perfection. For instance, there would be no difficulty in taking a light tramway down to the bay over the existing water-course, and a pier could be thrown out at which boats could unload. The coal, if brought by railway, could be

P. B. Elwell, Esq. 1 April, 1896.

lifted off the barges into hopper waggons, or, if brought direct by ship, could be unloaded into waggons, and the hopper bodies of these waggons could be conveyed by means of cranes right into the stokehole.

1260. But if you build a wharf and tramway specially to meet the requirements of the generating station, you must add that to the cost of the electric trams? Yes.

1261. What is the estimated daily consumption of coal for the proposed electric tram service? I think I ran it out at about 5 tons.

1262. If only 5 tons a day would be required would it be worth while to make a tramway and wharf for unloading coal? No; I do not think it would. I was considering the construction of a very much larger power station.

1263. You would regard Rushcutter's Bay as a suitable position for a generating station to supply power to the whole of the tramways? It would, perhaps, be a question whether, if it were decided to run all the tramways by electricity with future probable extensions, taking in the suburban railway lines, it would not be better to lay down a station more exactly suitable for the purpose.

1264. Is the Rushcutter's Bay site a suitable one? The site is very fairly suitable.

1265. Have you thought carefully about the position of a central station in the event of electricity being adopted on all the tram-lines? Originally, I thought that some site at Pyrmont would be the most suitable, being connected directly with the railway and with the harbour, and being sufficiently central for all purposes, but the initial cost for the George and Harris Street line would be very much greater if such a site were adopted than if the building at Rushcutter's Bay were utilised.

1266. You are utilising the boiler power and building space available in the Rushcutter's Bay building? Yes; we have the chimney-stack, the cranes and all fittings, and the boilers and condensers, and as I explained yesterday, in the event of extensions we could put generators on to the existing cable engines. As regards working expenses, that arrangement tells still more. If we construct a new station for the George and Harris Street line we should practically have to double our staff, whereas by working that line from Rushcutter's Bay we would only increase the staff a little.

1267. What would a new generating station for George and Harris Street cost? If it were only laid out for George and Harris Street, and provided for no extensions, it could be built for about £30 per horse-power. Having a maximum of 900-horse power available, it would cost about £32,000.

1268. That would be the additional cost if the Rushcutter's Bay station were not in existence? Yes; that would be the cost of building a station solely for the George and Harris Street line.

1269. Then, it would appear reasonable to add to the cost of the proposed line what you estimate to save by utilising a portion of the present arrangements at Rushcutter's Bay? I do not see that it would tell in the capital cost, but it ought to be divided in the working expenses; that is to say, the proper share of the generating station expenses should be allocated to the George and Harris Street line, and so relieve the cable line of certain expense.

1270. You have boiler power and other accommodation which at present stands charged to the cable tramway? Yes.

1271. What do you save by utilising these? If the Rushcutter's Bay station could be used, there would be a saving of £20,000, because about £12,000 would have to be spent upon additional plant—two boilers and an engine.

1272. By utilising the surplus accommodation and surplus power now at Rushcutter's Bay, you are able to submit this scheme for an electric tramway to us at an estimate of £20,000 less than would otherwise have to be framed? Yes.

1273. What would be the yearly wear and tear upon the conducting cable leading from the generating station to the track? Not more than $2\frac{1}{2}$ per cent.

1274. How long will the cable last? So far they have found no appreciable deterioration in such cables. There is no reason why they should not last 100 years; but, of course, it has yet to be proved that they will.

1275. Two and a half per cent. upon £3,500? Yes.

1276. What do you estimate to be the amount it would be wise to set aside for wear and tear? £100 a year.

1277. Supposing it were thought wise to do without a connecting cable, and to place the generating station in some other place, what would it cost? I do not see how these cables could be dispensed with except for the George-street line alone. If the central station were placed at Redfern they might be dispensed with for both George and Harris Streets, but for any extension of the system the cables must be used.

1278. What would it cost to build a station at Redfern? A central station at Redfern would save £3,500. Such a station for George and Harris Streets alone would cost about £32,000.

1279. You have not yet told us definitely whether you think Pyrmont will eventually be the situation of the principal generating station? If Pyrmont is chosen as the site the cable tramway will be driven by an electric motor, so as to save the staff at Rushcutter's Bay; that is to say, the engines will be taken from Rushcutter's Bay and used for the central station, and a couple of electric motors will be put in their place at Rushcutter's Bay. Two men would then be sufficient to manage the whole of the machinery at Rushcutter's Bay, working one shift each, and there would also be a saving of coal.

1280. Could you remove the boilers from Rushcutter's Bay to Pyrmont and still have ample power to run the cable trams? Yes; by using the electric motors, the tram to Paddington, which would be a very awkward route for an electric line, because the grades are very severe, could be worked by a cable driven by electricity. The first place at which I saw this done was Chicago, where they were saving between £2,000 and £3,000 a year by doing away with one cable station and driving the cable-drums by electric motors from their central electric station.

1281. In the event of your having the central generating-station at Pyrmont or some other suitable position, and utilising Rushcutter's Bay as a sub-station, what will be the value of the space unoccupied at Rushcutter's Bay? The boiler house, the chimney stack, and the space occupied by the engines, would then be practically useless. They make up more than one-fourth of the whole building.

1282. Then what proportion of the cost of the whole building would be lost? The chimney cost about £2,000, and I understand that the whole building cost something like £20,000; so that about £6,000 or £7,000 worth of buildings would be unused.

1283. Have you calculated the cost of the car-shed in connection with the electric tram? No; I have not. Mr. Deane deals with that matter.

1284. What other information have you to give us? I have a statement of the width of streets in which I have seen tramways at work in other places. I did not go into the matter very closely while away, because

because it was not at all the thing that I went to inquire into, and of course I gave up my time to what I considered would be most useful. But I measured some of the streets, and the information I obtained is shown in the following return :— P. B. Elwell, Esq. 1 April, 1896.

Place.	Population.	Street.	Width.	Remarks.
New York	2,835,000	Broadway	42′ to 43′	Cable.—Very heavy traffic.
Chicago	1,700,000	Clark-street	47′	Centre Poles.—Very heavy traffic.
Minneapolis and St. Paul	415,000	.....	40′ to 70′	Centre Poles.—Traffic about the same as Sydney.
Havre	130,000	Bould. Strasburg	48′	Centre Poles.
		Rue de Paris	33′	Side Poles.
		Rue de Paris	25	Single Line : Side Poles.—Traffic about the same as Sydney.
Birmingham	500,000	.....	36′ to 45′	Centre Poles.—Traffic about the same as Sydney.
Leeds	390,000	.....	34′ minimum	Centre Poles.—Traffic lighter than Sydney.

1285. That portion of the Rue de Paris which is 33 ft. wide would compare with George-street below Bridge-street, as far as width is concerned ; how would it compare as to traffic? The traffic in Havre is quite as heavy as the traffic in that part of George-street which you mention.
1286. How does the traffic in Leeds compare with the traffic here? The traffic in Leeds would hardly be equal to the traffic in George-street.
1287. Would the traffic be as heavy in Leeds as on that part of George-street near the harbour? It would be more that kind of traffic. The traffic in Leeds is not so much passenger traffic as heavy traffic. I have also a statement showing the estimated capital cost of the electrical portion of the proposed George and Harris Streets tramway :—

Poles, overhead wire, rail-bonding, &c.	£4,800
Additions to power plant at Rushcutters' Bay	12,800
Underground cables and accumulators	8,400
Motors, gear, trucks, and all other electrical equipment for motor cars ...	10,500
Lighting, telephone communication, &c.	800
	£37,300

Estimated working cost per car-mile—6·5 pence.

1288. *Mr. Lee.*] If the tramway were taken around the Circular Quay as far as the P. and O. Wharf, would that increase the cost of the electrical portion of the work to any extent? That extension would increase the length of the line by about 200 yards, and would increase the electrical cost by about £200.
1289. *Chairman.*] How? That would be the cost of the extra poles, overhead wire, and rail-bonding.
1290. How does the working cost of the proposed line compare with the working cost of electric systems in other parts of the world? Since higher wages and rather shorter hours have to be allowed for here, the working cost of the proposed line is about 1d. per car-mile more than the cost of the best systems in the States.
1291. That is where they generate power by using coal? Yes.
1291½. Speaking generally, would coal be about the same price in the States as here? I think it would.
1292. How does the estimated working cost compare with the cost of the tramway systems of Great Britain? I did not go into the cost of electric trams in Great Britain, because at the time of my visit nothing of any consequence had been running. Since then, however, they have equipped part of Bristol and Coventry with these trams, and they are going in for them in Swansea and Leeds on a larger scale. On the Continent, however, I found that the electric tramways were working still more cheaply. There are some splendid electrical overhead systems in Brussels, Hamburg, and Lubeck. In the last-named place the cost went as low as 4½d. per car-mile.
1293. How do you account for that? By the very low wages paid. At Lubeck I found that the drivers of cars got only about 18s. per week, with a small percentage on the takings. The wages here constitute the largest item in the working expenses.
1294. Can you divide your estimate of working expenses up into various items, such as wages, generation of power, and so on? I have not the actual figures before me now. The cost of wages will depend upon the number of cars run at a time, because it takes no more men to run two cars at a time than to run one car.
1295. On page 4 of "Memoranda regarding electric traction made by the Railway Commissioners," it would appear that the operating expenses per car-mile of the Chicago city railway came to 8d.? I found that their calculations were made in such a manner that their figures would not compare with what we were doing in Sydney. The cable trams in Chicago are generally run three cars at a time, and the electric trams two cars at a time. In Minneapolis I found them working by electricity at 5d. a car-mile, which would compare more nearly with the accounts made out here.
1296. Then how do you get your figures with regard to the cost of a car-mile in America? From various statements. As far as I could understand, in Chicago they were calculating the cost at per tram-mile and not at per car-mile.
1297. *Mr. Black.*] In America, if they have an additional car, it does not increase the number of conductors employed? On the Chicago city lines they have an enormous traffic, and with three-car trains they have two conductors. I would not be sure whether they have one or two conductors where there are two cars. In the case of large cars, with a great many people getting in and out, I think they have a conductor for every one.
1298. Then the saving is not in conductors but in motor-men, because while running three cars at a time you would only require two motor-men for six cars ; but running two cars at a time you would require three motor-men? Yes. On other lines where the traffic is not so heavy they could do perfectly well with one conductor for two cars. I read the answer in the *Engineer* of Nov. 1, to which reference was made yesterday, and as an antidote I would refer the Committee to a leading article in the same journal, published on 3 January last.
1299. *Mr. Black.*] In reply to the first article? No ; another leading article on the same subject.

P. B. Elwell, Esq. 1 April, 1896.

1300. *Chairman.*] You recognise that the *Engineer* is a paper of good standing? Certainly.
1301. The article on electrical traction in the United States was rather a drastic one? Yes. I might mention generally that what I saw of electric overhead wires in the United States was most objectionable. The style of the poles and wires was about as bad as it could be. In Brooklyn it is abominable, and would not be tolerated for a moment in Sydney.
1302. *Mr. Lee.*] These tramways are constructed by private companies, I suppose? Yes.
1303. *Mr. Black.*] Have the people no control over these private companies? Apparently they made no stipulation as to the manner in which the construction should be carried out. Now, however, they stipulate for a much better class of work, and the new work done in the States is very good, especially in Chicago. The following is an extract from the article of 3rd January:—

> Looking at the systems of street electric railways now in use, it appears that the overhead wire is the only one which has yet been found to pay.
>
> Both Dublin and Bristol are using the aerial conductor, and the splendid series of illustrations of foreign practice, which have recently appeared, prove to persons who have had no opportunity of personal inspection that the overhead wire can be made an ornament, and not an eyesore, even in streets of good architecture. The prejudice against such wires will, perhaps, gradually disappear in this country, and the railways in South Staffordshire, the Isle of Man, Leeds, and elsewhere, prove that the system is well adapted to the requirements of the public. The well-arranged system in many German cities must certainly lead us to think that we are very much behind on this point.

There is a similar article in the *Street Railway Journal* of January, 1896, a paper which corresponds with the *Engineer*, so far as street railways are concerned:—

THE OVERHEAD WIRE SYSTEM.

[Extract from *Street Railway Journal*, January, 1896.]

THE overhead wire system is the only one which has proven entirely adequate and satisfactory in the varying conditions found in American cities. This system alone has withstood the severest storms of the North; and the dry and gritty sands and salt moist breezes of the Gulf States. This system alone possesses that almost infinite power of adaptation and flexibility which has enabled it to handle the enormous traffic of our great city thoroughfares as efficiently as that in the barren wastes of "real estate" in the suburbs, or that of high speed rapid transit lines between cities and towns. The overhead wire system has its faults, and is quite as often cursed with bad management as blessed with good, but against all difficulties and obstacles thrown in its way it has triumphed and has won a place in popular regard which makes it certain that it will never be displaced by any other system offering less conveniences or a poorer service to the public.

1304. *Chairman.*] You regard the article from the *Engineer* of 3rd January as a reply to the article of 1st November? I regard it as an antidote, or a qualification.
1305. *Mr. Roberts.*] Is the overhead system at present in use in Broadway, New York? No; the system there is a cable system; but Broadway has been extended, and is now being worked on the electric system with a conduit, with a view to utilising the cable conduit down Broadway as an electric conduit.
1306. How long has the conduit system been in use in Broadway? I am referring to the Amsterdam Avenue extension. It has not been working many weeks. The line in Lennox Avenue has been working since August last.
1307. What system were they using before? Horse traction.
1308. That is down Broadway? Yes; they have overhead wires in New York, but not on the Broadway line.
1309. *Chairman.*] Have you anything further to say with regard to the article in the *Engineer*? No; I thought the best plan would be to read the extracts which I have just quoted.
1310. You would make it appear that there has been a change of opinion? In England they are always changing their ideas as they hear of each new thing.
1311. You believe that policy of the *Engineer* with regard to electric tramways has altered, as evidenced by the extract which you have read? Yes; opinion has been altering very rapidly in England, and in the last six months there has been shown a decided tendency towards the rapid extension of the overhead-wire system. With regard to Mr. Crawford's letter, which was referred to me, I may say that it reads as though it were written seven years ago. You can hardly imagine it to be of so recent a date as the 28th March; its statements are so absolutely unreliable. For instance, as far as Chicago is concerned—and that is one of the greatest cable cities in the States—they have not extended their cable system for the last two years, though they have extended their electrical system by something like 200 miles, and right through the heart of the city. On the Chicago city railway electricity has been substituted on over 40 miles of former horse tramway, reducing the mileage of horse tramways to less than 10, and bringing the electric mileage up to 118. On the North Chicago lines the electric mileage is about 80, while on the West Chicago line it is about 122.
1312. In extending their tramways they are adopting electricity? Entirely. In Clark-street they have occasionally forty double motor-cars and thirty-five trailers in a length of about 2 miles.
1313. Is your objection to the conduit system primarily one of cost? I think I may say that it is primarily one of cost, but an almost equal consideration is that it is practically untried. Personally, there is nothing I should like to do more than to lay down a conduit line, and I feel confident that I could carry it out successfully, although such a line has never yet been carried out, except at Buda Pesth, and there under exceptional conditions.
1314. What would be the difference in cost between the conduit system and the overhead system? According to Mr. Deane's figures on permanent way construction the cost of a conduit line for George and Harris Streets would be something like £23,000 per mile single track, or £46,000 per mile double track—that is, made in the same style as the electric conduit in New York.
1315. How would the working expenses compare? They would be precisely the same.
1316. But there would be an initial cost of nearly £100,000 extra? Yes. I should like to add, however, that it is most important that we should have a uniform system of tramways throughout the city and suburbs to facilitate economical working. If both the conduit and the overhead systems were used it would necessitate the fitting up of cars with double appliances to enable them to run on both lines.
1317. Have you any further information? I was asked to give the working cost of the Randwick to Waverley electric tram. The following are the figures in regard to that tramway:—Started, 9th November, 1890; stopped, 20th April, 1892; time of operation, 15⅓ months; car miles, 44,761; train miles, 42,191; loco. charges, £3,049; total charges, £4,255; per car mile, power, 16·34d.; per car mile, total, 22·8d. I may say that the cost per car mile for power should not as a rule exceed 1d. The tramway was constructed before I had anything to do with the tramway system here.

P. B. Elwell, Esq. 1 April, 1896.

1318. *Mr. Lee.*] Could not that extreme cost be accounted for? Yes, to a very great extent. They had not suitable engines or suitable boilers, and the road was most costly to work because it had a normal traffic of one car only. The cost of working a central station for a single car must always be high.
1319. That was a steam tramway temporarily converted into an electric tramway, and the bonding was not complete? It was a poor bonding.
1320. The whole thing was of a temporary character? Yes.
1321. And only an experiment? Yes.
1322. But an experiment which did not receive fair play? I should not like to make that statement.
1323. The work, if carried out under proper modern conditions, would cost a great deal less? That is quite possible. If the work had been carried out under an experienced electric tramway manager things would no doubt have been very different.
1324. *Chairman.*] You totally disregard the Waverley experiment as giving experience? Yes.
1325. What has been the success of the North Shore electric line? The cost of working that line averages 7d. per car mile, the same cars being used as were used on the Randwick line, though they are fitted up in a more modern fashion. The cost is exceptionally low, considering the low normal traffic there. We are able to work the line at so low a cost by utilising the spare power of the cable engines at Ridge-street, and we only had to put on two boys at the station when we started the electric trams.
1326. Were the generators at North Shore very expensive? They cost about £600 each.
1327. Do you regard that as expensive? No.
1328. How is it that the cable plant at North Shore can be used without employing expensive generators while the plant at Rushcutter's Bay cannot be used without employing expensive generators? The cable and electric systems at North Shore are on a much smaller scale, and I was able to arrange a counter-shaft to allow of the generator being run at a comparatively high speed, which would be impracticable at Rushcutter's Bay.
1329. Was the electric tram at North Shore a success at first? With the old motors it was never very successful, because of the very heavy loads that had to be carried on Saturdays and Sundays. As many as 95 people have been counted upon a motor car and 150 on a motor car and trailer. Of course that pulled the old-fashioned motors to pieces.
1330. You have no knowledge at all of that tramway affecting the electric telegraph lines? I did not understand that question yesterday. I understood you to refer to a tramway at Adelaide. On the Manly Road I originally arranged for the tramwire to be carried on the same poles as the telegraph wires, thinking that it would look far better. This plan has been tried in other cities since then, though it had not been carried out then, and it has been shown that there is no objection to it. The telephone wires, however, were disturbed because of the inefficient return at first provided. The rails were not bonded, and reliance was placed upon a single return wire which was run down the centre. Since then, however, I have connected the rails all along the line with the main water-pipes, and I have not heard recently of any complaints about the telephone wires being interfered with.
1331. Was the completion of the bonding the only step taken to prevent interference with the telephone wires? Those were the only steps taken which had any effect. I understand that other steps were taken, but they made no difference.
1332. What were the other steps? The wires were moved in some places to the other side of the road.
1333. Was anything further done? Not that I know of. The English Board of Trade carefully considered this question before giving permission for the construction of electric tramways. They first provided for a very efficient return being made in all cases, and where telephone wires ran parallel to tramway wires for any great distance—say for many miles—they provided that the tramway companies must give permission to the owners of the telephone wires to insert induction coils in the tramway service.
1334. Therefore, it was apprehended on general principles that there might be some difficulty? Yes; in some cases.
1335. You state that at North Shore the lines were moved to the other side of the road;—was that effective? It was of no effect at all. I did not expect that it would be.
1336. Who suggested their removal? I understand that the suggestion came from Mr. Walker, of the Telegraph Office.
1337. Are you aware that copper wire was run the whole length of the telegraph lines? No.
1338. You say that interference with telephone wires is caused from defective bonding, and that if the bonding is properly carried out there is no danger? Yes.
1339. Why was not this foreseen? The rails were laid down before it was determined to adopt the electric system there, and to save tearing up the road at every rail joint I tried to do without bonding.
1340. *Mr. Black.*] Did I understand you to say that you have placed the wire in communication with the water-pipes? The rails; that is the return conductor.
1341. Has that caused any electrolytic action? No; it has saved the electrolytic action, which only takes place when there is no metallic connection. In that case the current passing back to the generating station carries with it minute particles of iron. The Military Road line is not one which would stand a large capital outlay, so that we had to manage there as economically as possible. A return copper conductor ought, in all cases, to be used. The comfort of speaking on a complete metallic circuit is out of all comparison with the ordinary telephone speaking. You do not hear any one on the same line, or any noise. If the system were adopted in Sydney, speaking by telephone would be perfectly comfortable compared with what it is now.
1342. *Chairman.*] Is that system adopted elsewhere? Very largely. In some places they are obliged to use metallic circuits.
1343. Have you the original cost of the Military Road line? No.
1344. Nor of the saving which has been effected by using the cable plant at North Shore? We saved the cost of engine and boilers, station, and everything there. I can let you know the amount of the saving.
1345. Do you consider that a satisfactory electric tramway now? Yes; it has been working very well for the last eighteen months.
1346. You consider it a good specimen of an electric tramway? Of a cheap electric tramway. Of course, the poles and brackets are not pretty; they were put up as cheaply as they could be. The earnings at the present time are in excess of the expenditure, but not much.
1347. How do you make up the cost of 7d. per car mile? I receive monthly statements from the different

P. B. Elwell, Esq. 1 April, 1896.

different branches as to the various charges. The estimate is quite accurate; there is no question about it.

1348. You have not yet shown us how you make up the 6½d. on the George-street line? I estimated the cost of my branch of the work. The complete estimate was formed on my estimate and statements supplied by the Commissioners.

1349. *Mr. Humphery.*] How do you reconcile the statement that in Chicago the cost of working per car mile is 8d., and that there they pay lower wages and work longer hours, with the statement that here the cost of working will be only 6½d.? The wages are very much higher in Chicago than they are in Sydney and the hours are the same. It was the only place where I found wages to be higher than they are in Sydney. The traffic there is exceedingly heavy, and they pay the men as highly as three dollars a day each for eight hours.

1350. Is that the explanation? I think that that accounts principally for the difference. I never found trams worked so expensively, so far as the wages were concerned, as the Chicago trams.

1351. *Chairman.*] Have you any further information? Yes, with regard to the experimental accumulator car. The actual cost of working that car was 1s. 6d. per mile; but from the data obtained during the experiment I was enabled to estimate that if the system were generally adopted the cost would be only 1s. a mile. The car used was a standard 70-seat car.

1352. The cost would be 1s. as compared with 6½d. for the overhead system? No, 6½d. is the cost of running 40-seat cars. With similarly seated cars the cost would be as 9d. for the overhead system to 1s. for the accumulator system.

1353. That estimate is based upon your experience here? Yes, and no better experience has been obtained anywhere else. The experiment was highly satisfactory. I estimated that the cost would be approximately what it turned out to be. Of course the arrangement was a make-shift one. We charged the car from the existing electric lighting plant at Eveleigh, and everything was arranged cheaply, so that the materials used could be employed elsewhere afterwards.

1354. Do you regard the steam tramway service as satisfactory? No, I do not.

1355. Did you regard the accumulator service as satisfactory? Yes, so far as it went, considering the size of the car and that it was running in between the steam trams. The revenue obtained paid the working expenses of the car.

1356. What was the initial cost of the experiment? About £2,000, and the material has all been utilised again elsewhere.

1357. What did the £2,000 include? Two motors and trucks to carry the car, a battery of accumulators, and the fitting up of the car.

1358. What has become of the material used? The motors are being or will be used on the Military Road line, with the extension that is now being made. The accumulators have been put as a reserve power at the Ridge-street cable station, and the car can be run on the ordinary tram-lines.

1359. Why did you not use a rapid running car with which to make the experiment? The car was built by the Locomotive Department, and they turned out what they considered a very good car.

1360. *Mr. Black.*] Do you not think that the car was rather long for the purpose;—it appeared to me to have a pitching motion? I think that was mainly owing to the road. It is not a smooth road.

1361. *Chairman.*] Why did you not continue to run the car if the experiment was satisfactory? The experiment was conclusive.

1362. Conclusive of what? As to the cost of accumulator traction in Sydney.

1363. Was it necessary to test that? Yes. I found that there was quite a strong feeling among some of the authorities on tramways that accumulator cars would be the best to use in Sydney, and the experiment showed that they could be worked with very favourable results, if the charging was done at a general electric supply station. In that case the accumulators could be charged at practically no expense to the station, because they could take the current when it was not required for other purposes. The accumulators could be charged at any time with the spare power of the station.

1364. Was it necessary to have this experiment in order to prove that the accumulator system was not the best system? I think so.

1365. And it proved that? It proved that the accumulator system was more expensive to work than the overhead system.

1366. Was the experiment sanctioned in the first instance to prove the cost? Yes.

1367. And you proved the cost to be prohibitive? No.

1368. What did you prove? We proved what the cost was.

1369. What was it? The experiment showed that the cost of running, say, twenty cars by means of accumulators would be under 1s. a mile, which would correspond with a cost of 9d. a mile for the overhead system with the same sized cars.

1370. Therefore it proved the cost to be too high? It proved the cost to be higher than the cost of the overhead system.

1371. Therefore, other things being equal, it would be wiser to adopt the overhead system? Yes.

1372. What does the cable system cost? I do not know what the Ocean-street cable is costing now. The cost of cable traction varies enormously, according to the nature of the traffic.

THURSDAY,

THURSDAY, 2 APRIL, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	George Black, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, sworn, and further examined:—

P. B. Elwell, Esq. 2 April, 1896.

1373. *Chairman.*] I understand that you have some information as to the exact arrangement you propose to make for the utilisation of Rushcutter's Bay station in connection with the proposed tramway? The first question to consider is whether it would be advisable to use the extra power of the engines at Rushcutter's Bay for the proposed electric tramway—whether it would be wise to use it.

1374. *Mr. Black.*] When you say "wise," do you mean economically? Economically from a working point of view, and considering the security of working.

1375. You include that consideration? Yes.

1376. Then it is not only the economical working of the line that you consider? No. To do such a thing would practically be to put all your eggs into one basket, because an accident to the cable engine would stop not only cable trams, but the electric trams as well. Supposing the other engine were undergoing repair—and it might be in that position for some days—a breakdown of the working engine would stop both cable and electric trams.

1377. *Chairman.*] You have two boilers there, have you not? The boiler-power would be the same in either case.

1378. Therefore, what you say applies only to the engines? Yes. If we put down separate engines for the George and Harris Streets line, and the electric system were extended, as it seems practically certain that it will be, to all the lines, we could apply generators to the cable engines with very great advantage, and we should have something to fall back upon at any time. We should then have always one small and one large engine to fall back upon in case of a breakdown. The proposed generators for coupling to the cable engines would cost about £3,500 each, fixed complete and coupled to the engines. They would weigh about 40 tons each, and their speed—58 revolutions per minute—would be sufficient to supply 400 kilowarts, or about 500 electric horse-power each, which would be ample for the George and Harris Street lines. The cost of the two would be about £7,000. The extra boiler-power which we must have, whether we utilise the existing cable engines or put down separate engines, and other arrangements which we would have to make, would make a total cost of £12,000 for the station, a difference of about £2,000 between the two estimates. The generators would be very economical ones. They would probably run for twenty years without any material repair, owing to the slow rate of speed.

1379. Have you the cost of the cable tramway per car-mile? I think I can ascertain that for you. The following is a statement in regard to the Military Road electric tramway:—

Length of new line—2 miles 13 chains; total length electrically operated—2 miles 36 chains.

Cost of construction	£17,697	
Rolling stock	7,148	including £7,076 transferred from Randwick-Waverley line.
Machinery	1,852	
Total	£26,697	

Additional cost that would have been incurred had not the existing cable station and spare power been utilised, estimated at £4,500.

Working expenses in pence per car-mile:—

	First year of operation.	Second year.	Third year.
Locomotive branch	6·52	6·97	Not yet complete, but will be about
Traffic	1·47	1·89	
Permanent way	3·08	2·00	
	11·07	10·86	7.5

The decrease effected in the present year is largely due to improved motors.

The electric cars pass over 23 chains of the cable line, which is a double track; the rest of the line is a single track, with three crossing-places.

1380. *Mr. Humphery.*] You have supplied new motors there? Yes; new motors to all the cars. Those were charged to the working expenses in the second year.

1381. What is the reduction in cost per car-mile? The reduced cost of working amounts to 3½d. per car-mile. I have here an interesting extract from the report of the Leeds Corporation Tramway Committee, which visited Brussels and Havre in order to form an opinion as to the advisableness of putting an electric tramway through Leeds. It is as follows:—

Brussels.

At Brussels we found an exceptionally complete and well-laid-out sample of the overhead system. There are two lines electrically operated, having a total length of about 19 miles, and thirty-five motor cars, each one of which takes a trail car. Before the introduction of the electric system a large portion of the lines was worked by steam, and although the municipal authorities at Brussels opposed strongly the introduction of the overhead wires, the Belgian Government and public opinion caused them to give way, and the satisfaction now given is very great. With the steam locomotives the smoke, coal-dust, and condensed water made the route decidedly unpleasant. Now, with the electric traction, the improvement is most marked. The electric system fulfils the requirements of the public much better than the steam trains. The increase of traffic since the lines have been opened, we are informed, is very considerable, amounting to 100 per cent.

Havre.

P. B. Elwell, Esq.

2 April, 1896.

Havre.

At Havre is one of the most complete examples in Europe of electric traction on the overhead system. The whole of the network of the Havre trams, which was originally operated by horses, is now electrically equipped. The cars are fitted up in very good style, and the electric equipment is of the latest pattern. The overhead line is a good example of this class of work. In the narrow streets the wires are suspended over the track by cross wires of steel, fixed in some cases to ornamental brackets let into the walls of houses, and in other cases by steel posts. In the broader boulevards there are centre posts with ornamental arms on each side carrying the trolley-wire, and electric lamps are placed on the top of every alternate post. The effect is extremely good. There are about 560 posts. Of this number, 85 have arc lamps on them, lighting about 4½ miles of thoroughfare. We understand that it is likely that the number of arc lamps is shortly to be increased. The generating plant is placed in the central station of the local electricity supply company, with whom the tramway company have made a contract for the supply of electrical energy.

1382–3. Are the lights supplied by the machinery that operates the tramway? Yes.

1384. Do you propose to supply electric lights along the tram route? If it were required there would be no difficulty in doing it.

1385. Would there be any additional cost? The additional cost for George-street, from the Quay to the Railway Station, that is about 2 miles, would be the expense of providing about 50 horse-power, supposing the lamps were placed at intervals of 50 yards, which would be an effective distance. The cost of supplying these from the tramway current would come to about £500 a year, including the cost of attending to the lamps. That would be about £8 each for 1,000-candle lamps. I have here descriptions of the Bristol electric tramway which was opened a few months ago:—

ELECTRIC TRACTION ON THE BRISTOL TRAMWAYS.

(Extract from *Lightning*, 17th October, 1893.)

A PECULIAR interest attaches to this line, which can claim to be unique in many respects. It is as already stated, the first line constructed under the new Board of Trade regulations, and its equipment embodies the latest improvements in modern practice. Further, we may take it as broadly typical of the overhead lines to be constructed in the near future, with the somewhat important modification that most of the coming municipal electric tramways will be supplied with energy from the same works which provide the neighbourhood with electric light.

The chief objection hitherto raised by local authorities, in this country, against overhead systems of electric traction has been based on the assumption, that of necessity, they must be unsightly. It is easy to see that in former days there was good ground for this assumption. The early American system of fixing span-wires across the roadways between two posts, and suspending the overhead conductors from these span-wires, was highly objectionable in appearance, and it is not to be wondered at that our municipal bodies steadfastly set there faces against its introduction into this country. But time has brought improved methods, and it is not too much to say that a well-planned modern system of overhead conductors is not only free from any approach towards ugliness, but is, on the contrary, calculated to considerably improve the general appearance of our average busy thoroughfares.

With regard to the second objection, the Board of Trade regulations provide effectually against undue interference with existing telegraph and telephone wires, and require stringent precautions to be taken to prevent all likelihood of damage to gas and water pipes from electrolysis. The successful working of the tramway under these rigid restrictions will help to allay the opposition—engendered by an exaggerated fear of leakage currents—of the gas, water, and telephone interests; and this in itself will be no small accomplishment. With these preliminary observations, we pass on to give a short history of the undertaking.

The generating station is situated in Beaconsfield-road, close to St. George's Church, and about equi-distant from the two ends of the line, which is in all upwards of four miles in length.

The line starts from the end of Old Market-street, and runs in an easterly direction *via* Lawrence Hill and Bedfield-road to the London-road and Kingswood.

The line throughout its length is handicapped by pronounced gradients and curves. Between Old Market-street and St. George there are several inclines of 1 in 30, 1 in 32, and 1 in 35; immediately before reaching the points leading into the power station there is an incline of 1 in 15 for a length of 220 yards; and past the depôt on the road to Kingswood are gradients of 1 in 17 and 1 in 20. The road continues to rise until it approaches the Kingswood terminus, where it reaches an elevation of 300 feet above the starting point in Old Market-street.

Line.

The length of the new electric line is slightly under 4 miles, and it consists of double line, single line with passing places, and interlacing line. The interlacing line has been used very liberally in places where otherwise single line, with passing places, would have been necessary. Although costing more to construct than the latter, the adoption of the former method in narrow roads has two important advantages. In the first place, all the complications of points and crossings, with the consequent decrease of average speed that occur upon a single line with passing places, are rendered unnecessary; secondly, the interlacing line, by preventing cars from passing one another in a narrow street, ensures compliance with the Board of Trade regulations on this point.

Overhead Conductors.

The arrangement of the overhead gear has been planned with a special eye to appearance, and the contractors have succeeded in turning out a line which should go far to prove that, instead of being inherently ugly, the overhead equipment may be made the occasion of artistic display.

The overhead gear is entirely supported from standards set either in between the two tracks or at the edge of one footway, the latter method prevailing. These standards are at an average distance of about 30 yards apart, and are made of steel tubes in three lengths, which overlap for a considerable distance, and are shrunk together whilst hot. At the summit of each standard so formed is a strong bracket ornamented with a tasteful design in wrought ironwork, and from the ends of these brackets depend the insulators supporting the trolley wire.

The standards are embedded in concrete to a distance of 6 feet below the ground level, and each is surrounded for a short portion of its length above the footway by a cast-iron base which is merely slipped over the post, and in no way takes any of the strains to which the standard is subjected.

Throughout the whole length of Old Market-street, a particularly wide thoroughfare, with four lines of tramway, the standards are placed in the centre of the roadway, two lines of tramway passing on each side of them. The alternate posts are utilised for supporting the arc lamps with which the corporation light the street; and the effect of the whole arrangement is extremely good. Centre posts are also used at Lawrence Hill and Bedfield-road, where the tramway is some distance from the pavements.

1386. *Mr. Trickett.*] Have you had any practical experience of electric tramways except in connection with the Military Road tramway and the recent accumulator experiment? Yes; I was engaged on the Blackpool electric line in 1886 and upon the Port Rush electric railway in Ireland in 1885.

1387. What system is in use at Blackpool? The conduit system.

1388. If I remember rightly you strongly favoured the conduit system when before the Committee on a previous occasion;—what has caused you to change your views? That was in 1890. When I first came out here I had not seen anything like good work on the overhead system. In fact, it had been used only to a very small extent, except in outlying places in the States, and from my experience at Blackpool I was confident that I could make a thoroughly good conduit line here. On finding out, however, what great expense a conduit line would be in Sydney and what difficulty there would be in working it in combination with the existing lines, I changed my opinion.

P. B. Elwell, Esq. 2 April, 1896.

1389. In generating all the power at one station is there not a danger if anything breaks down of the whole system coming to a standstill? Everything would be arranged to prevent a breakdown at the tation. The only possibility of breakdown would arise from the bursting of a boiler, or from fire. The bursting of a boiler might totally disarrange the station for a time, but it would be extremely improbable, and so, too, would be a fire, because the station can be made practically fireproof.
1390. I ask the question because when you gave evidence before your objection to the cable tramway was that in case of a breakdown at the central station the whole system would stop;—is there any fear of a stoppage of the main current between the power-station and George-street? Not under the present system—not even so much as if there were a separate station for George-street. Six years ago the general impression was that it was better to have several stations to provide against breakdowns, but since then the stations have been so much improved, all possible precautions being taken against breakdowns and stoppage of supply, that you can depend more upon one perfect station than upon several isolated stations.
1391. You would have one main wire to George-street, which would convey the current for propelling the cars from the Circular Quay to the Redfern Railway Station; but how about the Harris-street extension? I would take a pair of cables from Rushcutter's Bay to the railway with a common return cable. The common return cable could not possibly break down, and it is only remotely possible that either of the leading cables would suffer an injury. If one of them were injured we could continue to use the other.
1392. *Chairman.*] Yesterday you made no reference to the common return cable? The estimate given yesterday includes the cost of the two leading cables and a common return cable. From the point of distribution at Redfern there would, in the first instance, be very short cables to the nearest sections of George and Harris Streets; then there would be longer cables also laid underground, to some point near the Post Office or the Town Hall, and a similar distance along Harris-street.
1393. *Mr. Trickett.*] Each working independently of the other? Yes.
1394. You stated that the Railway Commissioners had adopted some accumulator system on the Military Road tramway to be used in case of emergency;—is that in actual working now? Yes; it has been working nearly three years.
1395. I understood you to say that it had been introduced into the States—where? It is being introduced into the States now, but it is only during the last year or so that they have felt sufficient confidence in accumulators to use them for that purpose. Accumulators have been used principally in Germany and England.
1396. How long would that accumulator work in the case of a breakdown or disconnection of the overhead wire? My idea in placing the accumulator on the Military Road was simply to level the load-line; that line is normally one car with sometimes a trailler, and sometimes two cars, and the power taken fluctuates extremely. At one moment the car will take as much as 40 horse-power and at other times nothing at all. The accumulator, which was made under my designs and placed at the end of the line, absorbs the power from the generator when the cars are not taking any, and gives it out again when they require a sudden draft of current. It works just like an hydraulic accumulator. For that reason I made it with a very small storage capacity, but with very large powers of discharge. For instance, you can take 100-horse power from it for a few minutes.
1397. Then if the generating station broke down, the car would still run on for some distance? As a matter of fact, a car started one morning when the engine was not doing work, and ran to the other end of the line and nearly back again before they found the current fall off. I intend applying the same system to all lines, for two reasons: First, to level the load, which is a very important matter in economical working; and, secondly, to provide for the running of cars in the case of a break-down.
1398. But if there were no connection with the overhead wire, would the cars be able to proceed by means of accumulators within themselves? No.
1399. So that if anything happened to the overhead wire, a stoppage of the traffic would result? If the wire were broken or cut, a section of the line would be rendered useless until repairs had been effected.
1400. Mr. Deane said that the wire would be divided into sections, and that in case of fire only a small section would have to be disconnected;—how long would these sections be? I thought of working with sections of three-quarters of a mile, but of course there is no limit. It is extremely improbable that the wire would be interfered with in the case of a fire, because it will run along the middle of the road.
1401. Only the cross wires would be cut? Yes; and the cutting of those wires would not cause any trouble, though the trams would have to run more slowly over the sections.
1402. But if the cross wires were cut would not the main wire fall down? No; because the distances between the cross wires are not great enough for that. Then, too, provision will be made to carry the hoses across the street without interfering with the working of the trams. A kind of portable bridge will be made about 10 feet long, which will raise the car about the height of the hose.
1403. Mr. Bear told us the other day that he frequently rests his ladders against the electric telegraph wires, and that the current going down the ladders incapacitated his men. Supposing the ladders were in contact with the tram wire, would the current be strong enough to affect the men? Yes, if there were water on the ladders. The cross wires, of course, would be harmless.
1404. But the main wire would give a very strong shock? Yes; the men would feel it very much. They could not work on a wet ladder which was in contact with the main wire.
1405. In your travels did you specially inquire as to the inconvenience arising in the case of large fires? Yes; I took special notice of that in most cases.
1406. With what result? I could not see that the wires would interfere in any way.
1407. Did you make inquiries? Yes; I made inquiries all round. In America, where they have most wires, they have made modifications in their arrangements so that at the first signal of a fire the current may be cut off from any portion of the line.
1408. As far as you know no inconvenience has been caused? Yes.
1409. In how short a time could the cars be stopped in case of emergency, supposing they were running at their ordinary speed? A car running at the normal speed of 10 miles an hour could be pulled up in its own length.
1410. That would be by means of the power brake? Yes; and if necessary the motors could be reversed. Of course in greasy weather the car might slide a little further.

P. B. Elwell, Esq. 2 April, 1896.

1411. In one of the papers placed before the Committee it is suggested that the accumulator system has been considerably delayed by reason of the monoply that exists in connection with the overhead system; what are your views upon that point? I think the system would have made more progress if the principal manufacturers in the States had not been pushing forward the overhead system to such an extent.
1412. They do not seem to experiment with the accumular system in America, as much as in other places? No. The accumulators are working very successfully in Paris, but the cost is higher than the cost of the overhead system. Here I think it is quite probable that we may use a certain number of accumulator cars for running out to distant suburbs where a frequent service is not required.
1413. Seeing that the accumulator system is now being used to drive ordinary carriages, does it not seem strange that it should not be applied to vehicles running smoothly upon rails? The difficulties are less in the latter case; but people do not mind going to great expense in connection with private vehicles.
1414. These private vehicles are very costly? The electric vehicles are very costly. The most successful of these motor carriages seems to be that operated by a kerosene or oil engine.
1415. But is not that work in combination with electricity? No. Of course you can obtain a charge of oil anywhere, but it is difficult to obtain a charge of electricity.
1416. In view of the fact that a great deal of money would be wasted if a change had later to be made from the overhead to the accumulator system, do you still recommend the accumulator system for the proposed line? Certainly. In the event of the accumulator system being improved, which is remotely possible,—though no material improvement has been effected in the system during the last six years,—the cars would be used first on lines having a small traffic. The very last use of them would be on lines such as George-street where the traffic is heavy. Such a system would be most economical when the service was not too frequent.
1417. If a change were made what would be the cost? It would be comparatively small. The expense of the accumulators would be the main item. The existing power arrangements would continue.
1418. But there would be the loss of the overhead wires and the pillars? The poles would probably be wanted for electric lighting purposes.
1419. The cost of change from the conduit to the accumulator system would be very much greater? Yes.
1420. What voltage will be used on the proposed line? Normally 500 volts. The English Board of Trade has fixed that voltage as absolutely safe so far as human life is concerned.
1421. Have you seen the electric tramway in Hobart? No; but I saw similar cars made by the same contractors working in Genoa and another place.
1422. Is not that rather an out-of-date system? I do not consider it equal to the other overhead systems that I saw. The cars make a whistling noise as they go along and look clumsy, but the system is quite practicable.
1423. What system would you recommend for the proposed line? The overhead wire system.
1424. Any patent? No.
1425. Are these systems patented in America? Some of them are, but as a rule the main principle throughout is the same. Each of the makers has his own special points to recommend.
1426. There is nothing to pay for the patent right? No.
1427. Could you adopt the Thomson-Houston system here without paying for the patent rights? Yes; practically the same system. Of course it would be best to obtain tenders for the different portions of the work. As far as the overhead wire was concerned, our own engineers could carry that work out perfectly well.
1428. You could take the best out of everything you have seen in your travels and design a car without paying anything for patent rights? Yes; I found that in Chicago the companies were doing their own work, simply obtaining supplies—dynamos, generators, engines and so on from the makers. They design their own overhead work.
1429. The machinery in the body of the car and the dynamos would have to be bought in America from the patentees? In the first instance, they would have to be bought, but if we had a very large system it might pay us to manufacture. In that case we should not have to pay for any patents.
1430. What system is in use in Bristol? There they have Thomson-Houston generators, Willan's engines, and G.E. motors on the cars. The boilers are Babcock and Wilcox, I believe. Those are very favourable boilers because of the practicable impossibility of their bursting.
1431. The proposed line seems to me a very expensive one,—the estimated cost is £130,500? Yes; permanent-way always seems to me to be very costly in Sydney. It is so, especially where there are many pipes and where there is a wood pavement.
1432. What sort of pavement have they in Bristol? Macadamised road.
1433. *Chairman.*] What difference would there be, with the exception of the bonding, between a line necessary for George and Harris Streets and a line such as that in Elizabeth-street? There would practically be no difference. The bonding is such a small item in comparison with the total cost of the line that you may neglect it.
1434. You consider that it would cost as much to make the permanent-way for the proposed tramline in George-street as it costs to make the permanent-way where we have steam motors running? Although the electric cars and the cable cars are much lighter than the steam motors, it has been found economical to lay down the best type of permanent-way in the first instance. The following is a statement of the lengths of cable and electric tramways in Chicago:—

West Chicago lines	30 miles cable,	120 miles electric.
North „	17 „	66 „
Chicago City lines	34 „	117 „
Total	81 miles cable,	304 miles electric.

1435. Have you any information as to the number of passengers carried? No; the balance-sheets will not be out for two or three months yet.

WEDNESDAY,

WEDNESDAY, 8 *APRIL*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. CHARLES JAMES ROBERTS, C.M.G.	JOHN LIONEL FEGAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	GEORGE BLACK, Esq.
CHARLES ALFRED LEE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, sworn, and further examined:—

1436. *Vice-Chairman.*] Have you prepared a statement as to the respective merits of the cable and the electric systems since the last meeting? I have prepared this statement:— P. B. Elwell, Esq. 8 April, 1896.

THE only conclusion to be arrived at after making a general inspection of European and American systems of tramways, is that the cable must now be relegated to the list of special appliances to be used in exceptional situations, but to be avoided wherever it is practicable to introduce a flexible system, *i.e.*, capable of indefinite expansion with economy.

There is no question as to cable lines paying well where the traffic is heavy enough, but there must always be a point at which the cable must terminate, because it could not be made to pay with only a suburban traffic. Consequently there must be a break in the system, causing inconvenience to the public, as well as expense to the working.

In Chicago, where there are several cable lines with very heavy traffic, the companies are trying various expedients to avoid trans-shipment of passengers from cable to electric cars, at the end of the cable sections. In some cases they are running electric cars over cable lines, and in other cases they are drawing the cable cars behind the electric-motor cars, the tendency being to discard the cable altogether—mainly on account of the inconvenience.

In San Francisco the following extract from the February number of the *Street Railway Journal* of New York, 1896, shows that the cable has actually been discarded, owing to the greater popularity and economy of the electric cars.

In the month of September, 1873, or a little over twenty-two years ago, the first cable street railway in the world was started in San Francisco. This line was on Clay-street, where the grades are from 10 to 16 per cent., and its original object was only to furnish means of transporting passengers over lines that were not feasible for horse or steam traction, as these were the only systems in use for street cars at that time. The road was a success mechanically and financially from the start, and its fundamental features were quickly copied on other roads in this city and in other cities.

Articles have appeared in Eastern journals from time to time to encourage San Franciscans in the belief that the cable system was really more economical than the electric, except on long suburban lines, but for about a year and a quarter the Market-street Railway Company has owned electric roads of its own, and has been making data for itself. Snow has not bothered the Company at all on its cable roads, nor has the frost closed up the slot. The expense for cables has not been abnormal, and the original construction was most substantially done in iron and concrete. In fact, the conditions for cable-road traction in San Francisco are the equal of any in the world, and the construction and operation of these roads are unsurpassed. The Market-street Company, however, has become convinced that the people prefer to ride on electric cars, and that the electric-cars carry the people more cheaply than does the cable. These results were not obtained from a few electric cars run on level lines and at high rates of speed, but from the operation of upwards of 150 cars at from 1½ to 2½ minute headway at times, and on lines having grades as high as 14½ per cent. Most of these cars are subject to frequent interference from the heavy wagon traffic on the down town streets, and all of them are governed by the rule ordering reduction of speed at the crossing of each intersecting street.

The Company began cautiously by changing its old horse-car lines to electric lines. Later it decided to equip with electricity the route of a franchise designed to be a cable road, and for which 30,000 dollars' worth of cable material had already been bought. The routes of all new franchises were then ordered to be equipped as electric roads, and finally it decided to abandon the use of the cable on one line—Ellis-street—and substitute electricity. This last decision is considered by many as very significant, and as foreshadowing the changing of not only all cable roads on the level to electric roads, but the changing of all cable roads on grades accessible to electric cars, and not only the cable roads of the Market-street system, but also those of the other cable roads in the city. The Market-street Company maintains at present six cable-power houses, and each has its two large monthly items of fuel and labour. Every time a cable power-house can be dispensed with, and the lines operated by electricity, that power-house's item "labour" is wiped out, and the item "fuel" is reduced, both on account of the lesser fuel required per car mile for an electric road as against a cable road, and because the cable-houses are usually run non-condensing, whereas in the electric power-house the engines are run condensing.

The same may be said of Philadelphia and Pittsburg, where cable lines have been converted to electric in order to have one uniform system throughout.

1437. Have you any other statement to make? That is all.

1438. *Mr. Trickett.*] This paper which you have just read and handed in is confirmatory of your former evidence, that the transition is entirely in favour of the electric system? Yes.

1439. You quite understand, in considering this question, that one of the important items which the Committee have to consider, with the view of getting the matter considered possibly by Parliament hereafter, is the matter of expense? Yes.

1440. I understood the other day that a certain part of this work will be carried out by Mr. Deane, such as the roadway—that portion of the work will be under his superintendence, will it not? I believe that the whole of it will be carried out, nominally, by Mr. Deane.

1441. You having been sent by the Government of New South Wales, through the Railway Commissioners, to a considerable portion of the world for the purpose of getting experience in this particular kind of traction, will you be entrusted, as far as you understand, with the carrying out of this line if the Committee recommend and Parliament sanctions it? I understand so.

1442. That being so, can you give the Committee detailed information to enable them to arrive at the cost of that portion of the scheme which will come under your particular direction? I have already made a statement as to that.

1443. Then the answer to my question is contained, you say, in question and answer 1287? Yes.

1444. We understand, then, from that answer that out of the total estimated cost of £130,500, the portion which will come under your control will cost only £37,300? Yes.

1445. Leaving a balance of £93,200 to be expended for laying the permanent-way? Yes, and the rolling-stock—that is, the car bodies principally.

1446. Laying the permanent-way, supplying the rolling-stock, and supplying the car bodies, but not the motors, because you have charged for them? Yes.

1447. What are the trucks which you charge for? The trucks are the undercarriages of the cars; motors and trucks really go together.

1448. Then would you kindly tell us what this £93,200 is to be expended on, so far as you can see; you are going to expend £37,300 for the items enumerated in question and answer 1,287? Yes.

1449.

P. B. Elwell, Esq. 8 April, 1896.

1449. What is the country to get for the £93,200, the difference between your amount and the total estimate given by Mr. Deane of £130,500? I understand that that would consist principally of the permanent-way and the car-shed, and the land necessary for it.
1450. Does not that seem to you a very large sum for a short length of tramway such as this is, a little over 3 miles? It is very high, but I understand that various contingencies are provided for in case of having to remove water-pipes and various difficulties that may be encountered in George-street.
1451. Well, those certainly are contingencies to be provided for, but the provision would seem to be very ample, I should say;—do you not think so? I believe very ample provision has been made for all contingencies.
1452. It really comes to about £30,000 a mile? Yes.
1453. From your recent travels and inquiries do you not think that, by way of comparison, that is a very large amount? It is higher than I have met with in any case, but I understand that the cost of laying the rails in the wood-blocking is more expensive than under any other circumstances.
1454. *Vice-Chairman.*] Have you any statement showing the cost of construction in any other part of the world? I have details of the cost of a permanent-way in macadamised roads in the United States.
1455. Have you seen the electric system in operation in any city wood-paved like ours? No.
1456. Have you the details you refer to with you? I have not them here, but I have them in my report to the Commissioners, which, however, I have not got with me now.
1457. *Mr. Trickett.*] You see that one of the chief functions of this Committee is to ascertain the cost of carrying out a work of this kind, and it does strike me that this amount is very high indeed for such a short length of tramway as that proposed, and putting down your own amount, which is a somewhat moderate one, we want, if we can, to get at the cost of this permanent-way, if you can help us at all? Of course Mr. Deane has taken that entirely.
1458. You have not conferred with Mr. Deane on this subject? Not on the cost of the permanent-way.
1459. Did you supply him in the first instance with those details which you have given to-day? Yes.
1460. So we may conclude that he has taken your items as the probable amount of the work you there set out? Yes.
1461. Can you inform the Committee as to the cost per mile of any other lines of tramway that have been recently constructed in this or any other country? I may read you the following extract:—

There being no hardwood pavement in use on American tramway lines I have taken for comparison with the cost in New South Wales, what may be considered a standard form of construction of double track which I saw being laid on a macadamised road in the neighbourhood of Buffalo.

The figures are obtained from the contractor who possesses a high reputation for good work, and who inquired if there was any chance of obtaining a contract on a similar scale in Australia.

Rails, 60 feet long, girder type, 7 in. deep, weighing 73 lb. per yard.
Sleepers, 8 ft. x 9 in. x 5 in., said to be good for nine years, fitted with angle-plates or knees (acting as chairs).
Ballast, 6 inches, machine crushed, under sleepers, 5 inches between sleepers, and 7 inches on top. Total, 18 inches
Fish-plates, 24 inches long; eight bolts.
Electrical bonding. Two U shaped No. 0 copper bonds riveted in the flanges below the fish-plates. Also a similar copper connection across every third pair of rails, including both tracks.
Total cost per mile of single track, £2,400.

1462. Where is that? That is the line that has just been finished between Buffalo and Niagara.
1463. Would that be a line that vehicular traffic would cross and re-cross? Yes.
1464. But still not such a class of road as would be necessary in George-street and Harris-street, Sydney? No; as far as the road went, it would be the simplest form of work;—no pipes to be interfered with, and no pavement.
1465. You have no other comparison which you have made? No; I could not obtain any complete details of the cost in other places.
1466. *Mr. Clarke.*] With reference to the overhead system which it is proposed to bring into operation in George-street and Harris-street, you have already given evidence that you consider it to be the best system at the present time? Yes.
1467. As to the cost; in fact, it is the best and cheapest mode of traction at the present time? Yes; it is the cheapest system of traction.
1468. Do you think that the accumulator system which has been in use from Redfern to the terminus near Circular Quay is not suitable? Not at all suitable for George-street. It is quite possible that that might be found the cheapest system of traction for outlying suburbs where a very infrequent service is required.
1469. The conduit system, then, you entirely disapprove of? As far as George-street is concerned. Apart from all other considerations, a conduit could be made to work fairly economically. Although the first cost would be very much higher than that of the overhead wire, the working cost would not be higher as far as I can tell; but the difficulty would be where the conduit line ended and the overhead electric line began. It would entail carrying double appliances on all the cars. We could not possibly continue the conduit system into the suburbs.
1470. Are you aware that it is intended ultimately to convert the present system of trams to the electric system? Yes.
1471. Have you any idea of what the cost of converting the present steam tram system to the electric would be? The conversion of the existing steam lines into electric traction by the overhead wire would cost from £1,000 to £1,200 per mile of double track.
1472. Have you taken into consideration the advisableness or otherwise of a single line commencing at Circular Quay and going up George-street, and another line going through Pitt-street, and uniting somewhere in George-street, near Park-street? Yes; that is a scheme which was brought before the Public Works Committee some years ago.
1473. Yes; four or five years ago? The only drawback was that it appeared to me that it would not meet the demands of the traffic so well as the double line in George-street.
1474. Do you consider there would be more danger in having a double line in George-street or a single line, as I have just intimated? I think it would be preferable in every way, on account of general safety and convenience, to have a double line in George-street and no line in Pitt-street, so that people wishing to drive through would always have Pitt-street clear.
1475. I suppose you are aware that many years ago there was a horse tramway in Pitt-street? So I understand.

1476.

P. B. Elwell, Esq. 8 April, 1896.

1476. Have you taken into consideration the expense of a single line, as I have already mentioned, or a double line up George-street;—which would be the cheaper? The double line up George-street. There would not be a great deal of difference, but the difference would be naturally on the side of the double line. The double line must be cheaper.
1477-8. I noticed that in the evidence you gave a few days ago you said you were aware of the working of some lines at Blackpool and Port Rush, in Ireland;—under what system do those trams work? The Port Rush line was the first electric railway in the world, I believe, and that was made along an ordinary road—on one side of the road, so that the conducting rail, which in that case took the place of the overhead wire, could be carried about 18 inches from the ground, close to one side of the road, and so be out of the way of the traffic. It would not be suitable for city traffic at all. The Blackpool line is a conduit line, and has been fairly successful from the beginning.
1479. The Port Rush line is a very short one, is it not? About 10 or 12 miles.
1480. From Port Rush to Bushmills? Yes.
1481. Are you aware whether that line exists still, or whether it has been abandoned? It still exists.
1482. *Mr. Hassall.*] How long have you studied this question of electric traction or electric motor-power? Since 1878.
1483. Have you given the matter personal attention since then? Yes.
1484. And you have taken a trip to the older cities of the world in order to obtain the fullest information with respect to the best motive power for the conveyance of passengers in a city? Yes.
1485. And what conclusion have you arrived at? That a system of traction by means of the overhead conductor, if properly arranged, is by far the best and most suitable in nearly every case.
1486. Is that on the ground of economy, as well as everything else? Yes.
1487. On the ground of increased facilities and conveying the public at minimum cost? That is really the main point—the greatest facility of conveyance, with the convenience of expansion in any desired direction with economy.
1488. For rapid and safe transit of a large passenger traffic? Yes.
1489. You have compared the cable system, the conduit system, the accumulator system, and the overhead-wire system? Yes.
1490. And you have definitely arrived at the conclusion that the overhead-wire system is the preferable one of the lot? Without question.
1491. *Mr. Fegan.*] I understand that your evidence went so far as that you had not heard that the electric tram interfered with the telephone wires at North Shore? I misunderstood the question in that case. I understood that it referred to some line at Adelaide.
1492. Have you heard that there was some interruption caused at North Shore through the tram? Yes.
1493. Would you give us the reason for that interruption? The overhead wire on the Military Road runs parallel to the telephone wires for a distance of about 2 miles, and it is necessary for me to explain that so long as an uninterrupted current of electricity is carried along those conductors at the side of the telephone wires, no effect of any kind is produced on the telephone wires. For instance, you might carry 1,000 horse-power through those conductors, within an inch of the telephone wires, and you could not possibly produce any inductive effect on the telephone wires, but the moment that the current is interrupted then it produces a distinct disturbance of the telephone, and when the current starts again you get a similar effect, though not so great, so that all interruptions of the tramway current are reproduced to a greater or lesser extent on the telephone wires, and it is found that without touching the telephone wires for a moment the best way of reducing the effect upon them, as far as the tramway conductors are concerned, is of course to put them as far away as possible to begin with, and the next is to have as perfect a return conductor as possible through the earth. Both the telephone and the electric tram currents return together through the earth, and if the electric tramway currents are distributed all over the earth, as they must be if they have not a good return conductor of their own, they interfere to a great extent with the telephone, and in the first instance on the Military Road we had what was a decidedly defective earth return on the tramway wires.
1494. I suppose you remember that several cases were brought before the Supreme Court in America between telephone companies and tramway companies as to the great interference caused to the electric current of the telephone wires? Yes. There have been several cases, and I think that, without exception, the final decisions have been, first, that the tramway companies must make good earth returns for their wires, and, next, that the telephone companies should have a metallic circuit, and no earth return at all.
1495. What would it cost for a metallic circuit in this city;—have you any idea? No, I have not; but it would be a very large sum.
1496. But you think this work could be carried out without interfering with the telephone wires? Yes; with a good earth return on the electric tramway wires there would be no more interference with the telephones than there is at the present time in the city.
1497. What constitutes a good earth return? The best possible would be a rod of copper running through the ground, but as the steel rails are already there we utilise those to the greatest possible extent by joining the ends of the rails with copper bonds, so that there shall be no electrical resistance at the fishplates. It will be, practically, a continuous conductor. The steel rails weight for weight are only about one-sixth or one-seventh as good a conductor as a solid rod of copper would be, but then they are a very much larger section.
1498. Do you remember the case in Glasgow which came under the notice of the authorities there, where the telephone company—which is a private company, I believe—had to put up double wires? The telephone companies had to put up double wires in all cases I have heard of if they wished to have a perfect system.
1499. I suppose you remember the case, do you not? I do not remember that particular case, but I know several cases which I have carefully followed in England, and the decision has been that the tramways are of more importance to the travelling public than the telephones, and that the preference ought to be given to them, especially as it costs far less and is far more profitable to have a metallic circuit on the telephones than it would be on the tramways.
1500. I suppose that the cost would run into thousands of pounds to have a metallic circuit in Sydney? Yes, all over the system; but along George-street alone it would be a small matter.

P. B. Elwell, Esq. 8 April, 1896.

1501. But if it needed a metallic circuit for George-street it would, of course, affect the greater portion of the wires, would it not? To a small extent it would—according to the distance they run parallel.
1502. Affect almost the whole circuit? Yes; but I do not think the tramway wires would have anything like the interrupting influence that the existing telegraph wires do in George-street.
1503. I understand you to say that you had charge of the Blackpool electric tramway? I designed the machinery, motors, and generators for Blackpool and several other lines in England.
1504. Did the public find any fault there with the telephonic communication? I never heard of any complaint at Blackpool.
1505. And you saw it in full working order, I suppose, before you left it? Yes.
1506. And no complaints whatever were made against it? No.
1507. That was on the conduit system? Yes.
1508. And it worked satisfactorily? Fairly; it was put down in too cheap a manner at first, and it had to be partly relaid.
1509. It was put down for visitors because in the summer Blackpool is a great watering-place? Yes; I think it was worked all through the winter in every case, but, of course, the traffic then was very small compared with the summer traffic.
1510. The summer traffic is very large there? Yes.
1511. Do you think it is necessary to have the road along which the tramline will run from George-street to Harris-street paved with wood-blocks? I think that is a question for the municipal authorities.
1512. It would make it a much better road when once put down—a more permanent way? It is certainly to the advantage of the permanent way to have it wood-blocked.
1513. And it would not take so much to keep it in repair as it would otherwise? No; it would not.
1514. And it would be safer? Safer in every way.
1515. *Mr. Wright.*] You are, I understand, a properly-qualified electrical engineer? Yes.
1516. And you feel quite satisfied, with your professional attainments, to undertake this or any similar work? Yes.
1517. In answering a question about the cost of constructing a road in America, which you took to be as near an approximation as you could get to a wooden road, you talked about sleepers and ballast;—was that a tramway or a railway? It was a tramway, but intended for high-speed working, up to at least 20 miles an hour.
1518. Do you approve of the system proposed here of laying down these rails on solid concrete without any buffer in the shape of a sleeper? Yes; I found that the best construction in Boston and New York was carried out in that way.
1519. Was, in fact, laid solid? Yes; on the concrete.
1520. Was that in wood-blocked streets or macadamised roads? Either macadamised, or granite paved, or asphalted.
1521. Well, take the granite paved as being the nearest approximation you can get to wood-blocking, do you think that having the rails on the concrete would have the effect of disturbing the roadway itself? I do not think it would have so much effect as heavy-wheeled traffic on the pavement.
1522. In giving your figures as to the work that would come under your cognisance. you quoted these things:—"Overhead poles, overhead wire, rail-bonding, &c., £4,800; additions to power plant at Rushcutter's Bay, £12,800; underground cables and accumulators, £8,400; motors, gear, trucks, and all other electrical equipment for motor cars, £10,500; lighting, telephone communication, &c., £800; total, £37,300"—those, you say, would come under your immediate control? Yes.
1523. Would you look at Mr. Deane's estimate on page 6? This appears to include the whole of the work.
1524. But looking at his answer to my question number 85, you notice that Mr. Deane says that he takes the responsibility of everything excepting the purely electrical work, and he includes the machinery in his work? It is rather difficult, of course, to divide the electrical machinery from the purely mechanical machinery. In fact, it is almost impossible to draw the line.
1525. But I may suppose that you are satisfied that Mr. Deane should have the supervising of the additional engine-power? Yes; I think so. I think the entire work ought to be carried out with his approval. I am simply acting really as consulting electrical engineer to Mr. Deane.
1526. Is it a fact that the overhead-wire system in certain portions of America has been strongly protested against, and is in danger of being removed? There is no doubt that in some places the municipalities are trying to make the tramway companies introduce the conduit system.
1527. For what reason? The main reason is because of the very objectionable style in which they have put up most of their overhead wire work.
1528. Then you think that their work is badly done? Very badly done, indeed, in most of the old cases; but, on the other hand, in Europe, where I saw really good overhead work in some of the most ornamental cities, there was no objection of any kind raised to the overhead wires.
1529. You found it largely worked? Very largely. It has been extended very rapidly.
1530. I gather that from your experience as an electrical engineer, you think it is the best system that has yet been made known? Yes; the conduit in most places would be difficult to extend, owing to the very much greater cost.
1531. From your experience, or from your knowledge, as an electrician, do you think there is any likelihood of electrical locomotion advancing very far beyond what it is at the present time? It is possible that a different system of working may be introduced—that is, what is called a three phase.
1532. Do you think it is possible that the advance in science will enable us to have electric motive-power on other than rigid roads? No; I do not see any prospect of that at all.
1533. You think there is no prospect of science so far advancing as to enable us to have electric traction on ordinary roads—what I call the independent traction, as against the rigid traction of the railway? I believe that private electric carriages and vans may be introduced, because on good working pavements they could be run with very little more resistance than on rails, and, of course, being able to take a van-load of goods from one spot to another without transhipping to any line of rails would be a very great convenience. But the cost of the traction must always be greater than on rails with overhead wires.
1534. Would it be very much greater with good wood-blocked roads than on lines, supposing there was a smooth surface? The cost would mainly be greater owing to the necessity of using the accumulators, each vehicle carrying its own propelling power.

P. B. Elwell, Esq. 8 April, 1896.

1535. There is no possibility then of the system of overhead wires being adopted for independent vehicles? I do not think it is practicable. It would entail the necessity of steering the car exactly underneath the overhead wire. There would be a great many difficulties.
1536. And you look upon the proposal now before the Committee as in no sense of the word an experiment? In no sense whatever.
1537. You think from your knowledge as an electrical engineer that you are proceeding on perfectly safe lines in recommending this system of traction for the city of Sydney? Absolutely; beyond all doubt.
1538. *Mr. Lee.*] In the event of the overhead system being adopted, and it being subsequently discovered that the accumulator principle was preferable for practical purposes, could the overhead system be converted into the accumulator at a minimum of cost? The only cost that would have been incurred that might have been avoided by introducing accumulators in the first place would be the cost of overhead wires and poles. Everything else could be utilised.
1539. Well, in that case, if it were necessary to adopt the accumulator system in a few years, it could be applied to the cars that would be then running under the overhead system? Perfectly.
1540. And the overhead wires could be removed? Yes.
1541. Can you from memory say what is about the cost per mile of that portion which would be dispensed with? From £1,000 to £1,200 per mile in the city, but then the wire would be worth just as much as if new, and the ornamental poles could be used for lamp posts or other purposes in other places.
1542. Does the present estimate of cost admit of any future extension of the system—for instance, if this turns out right, it would be thought well, perhaps, to put it in Pitt-street, and I want to know if it could be carried into Pitt-street without increasing the power? The mains running from Rushcutter's Bay to Redfern as well as any accumulators that were put down would all provide to some extent for extensions, that is the extra cost of making the extensions would be very much smaller than if those mains and accumulators were not there.
1543. It would require some additional expense if the system had to be extended to some other street? You could extend it a mile, or a couple of miles, perhaps, without.
1544. Supposing it were decided to extend it to Pitt-street by-and-bye? I would simply put down perhaps one or two more boilers and one more engine.
1545. And that would meet the whole case, except the cost of construction? Yes.
1546. Have you in your special travels through electrical America and other countries met with streets as narrow as George-street, and carrying as great a traffic, through which electric traffic was conducted? I have met with streets on the average quite as narrow as George-street, and with quite as heavy traffic both in Europe and America, but especially in America, with quite as heavy traffic as in George-street, and which did not average any greater width than George-street.
1547. I do not want it in detail, but I ask you for a point blank reply, because you have been sent out into the world to inquire into this matter, and we want to put your evidence before the country; have you met with streets as narrow as George-street, and with as great a traffic as George-street, and through which electric traffic has been conducted? I have.
1548. And have you found that among the many electric systems in use the overhead system is in advance of all others for street traction purposes? Very much in advance.
1549. Well, then, you are of opinion that, if the estimated cost of construction is not exceeded, and if the estimated expense of maintenance is not exceeded, the figures, so far as your Department is concerned, can be relied upon? Yes.
1550. And do you think it is possible that the cost of conducting the traffic will exceed the estimate? I do not.
1551. Could you make any suggestion by which this proposal could be improved without impairing its economy and efficiency? No; I could not.
1552. Therefore, you are prepared to recommend to this Committee a system which from your researches you are clearly of opinion can be adopted with safety, and will carry the traffic as well as it is carried in the streets in any other part of the electrical world? Yes, I am.
1553. It has been said here that the reason why the cost of the power-house at Rushcutter's Bay so largely exceeded the estimate was in consequence of putting in additional power, which power was capable of driving from two to three times the length of cable; that being the case, how does it come about that the boiler-power is not sufficient to drive the motors for the electric tram? I understand that only sufficient boilers were put in for the King-street to Ocean-street cable line, but provision has been made in the boiler-house for two more boilers, and there is convenient space, with very little addition to the building, for five more, and the chimney stack is equal to ten boilers in all.
1554. *Mr. Black.*] Have you not said that the distance between the standards would be about 120 feet? Yes.
1555. What would be the distance between the span-wires? The same distance in an ordinary run, but rounding a corner or running down Circular Quay there would be more of them.
1556. In reply to a question put by Mr. Lee you said that in the event of accumulators being substituted for the overhead wire system the only loss would be on wires and standards;—would there be no loss with regard to disused buildings? I think not.
1557. You think they would be used for the production of power? Just the same.
1558. Is it probable that any development of the motocycle would render it capable of taking the place of a tramway system? I do not see any probability at all.
1559. I suppose that in such an event it would render all the rigid roadways unnecessary? It would in such a case, but I think that even considering only the question of labour—the extra labour entailed in steering the trams especially—it would cost more than the maintenance of the permanent-way. Without rails, all vehicles would have to be steered, and that would entail very constant and very careful work, and the cost of paying the men to do that would be greater than the cost of the maintenance of the rails.
1560. *Mr. Roberts.*] Am I right in understanding that the amount of engine-power to be procured from Rushcutter's Bay is about 500 horse-power? Roughly yes, as a maximum.
1561. How much power will then be left available for the further extension of the present Ocean-street cable tramway? Taking all the power as duplicated—that is to say, that you would never be using more than half the power of the house, there will still be about 200 horse-power left.
1562. Would that be sufficient for any contemplated extensions of the cable system? Yes; that would be

P. B. Elwell, Esq. 8 April, 1896.

be sufficient for any contemplated extensions, but with very little alteration the station could be increased to any desired power.

1563. You do not intend to utilise the power at present in existence at Rushcutter's Bay, do you? As far as the boilers are concerned yes, but not as far as the cable engines are concerned. We would use all the boiler power jointly for the two lines, but it is considered that it would be better to leave the cable engines alone until a larger provision has been made against any possible accident.

1564. Then what really is intended to be done, I understand, is that you will convey the power by an underground cable from Rushcutter's Bay to Redfern? Yes.

1565. But what sort of work will really be necessary within the Rushcutter's Bay buildings to enable you to do that? Two more boilers, and three combined engines and electric generators.

1566. And if this electric system should be generally adopted throughout the city and suburbs, would there be sufficient space in the Rushcutter's Bay building then from which to procure the necessary power? Yes; it could be extended without difficulty. Probably the most convenient way would be to take a small portion of the existing car-shed into the engine-house. That would be all that would be necessary, because the boiler power with present arrangements would be sufficient—that is to say, there is room there for ten boilers altogether.

1567. Owing to the probability that this electric system will be generally adopted throughout the city and suburbs in lieu of the present steam tramway system, do you not think that it would be more economical to start afresh and to erect a power-house capable of supplying the necessary power for the electrical system throughout Sydney and suburbs, instead of utilising the Rushcutter's Bay building which, I should imagine, would be hardly satisfactory, in view of the possible extensions to which I have referred? I thought at first that it would be a great deal better to lay out a station for the purpose of generating electricity, but after considering all the points at the Rushcutter's Bay station, I came to the conclusion that there would be very little difference in the long run between the cost of working from there and the cost of working from any other point that you could choose, and the initial cost, of course, would be very much greater in a new station.

1568. I forget if you furnished any figures with regard to the initial cost of a power-house for the electric system alone? I think I did give some approximate figures for a power-house for George-street.

1569. Would that be for the proposed line only? For the proposed line only.

1570. Was it about £32,000? Yes, it was.

1571. You have been consulted, I presume, as to the conduct of this power from Rushcutter's Bay to Redfern, and the utilisation of the present buildings there? Yes.

1572. And you quite approve of the scheme as laid before the Committee? Yes, I do.

1573. Under all the circumstances you think it is the best thing to be done? Yes.

1574. *Mr. Fegan.*] What would it cost to have a metallic return for the electric tram;—have you gone into an estimate for that? There is a system—only one that I am aware of—where a metallic return is used. That is in Cincinnati, in the United States, and the effect generally is bad, because not only are there double overhead wires—that is, two wires over each line of rails—but constant accidents are happening through short circuiting of the line. Any disturbance may produce an accident, and it is in consequence of the complex nature of those overhead wires that the system has not been repeated.

1575. So you could not recommend a metallic return? I could not.

1576. Are you aware that Lord Kelvin considers it absolutely necessary that metallic circuits for the telephone system should be adopted—of course, Lord Kelvin is an authority on electricity? Yes, he is an authority, but I do not remember seeing his opinion in particular.

1577. What is your opinion? I feel sure that would be his opinion.

1578. Do you approve of that? Yes.

1579. I suppose you have not gone into an estimate of what it would cost to make that in a place like Sydney;—I suppose £100,000, or something like that? I think that would be more that the total cost.

1580. You have not gone into the matter? No.

Philip Billingsley Walker, Esq., M.I.C.E., M.I.E.E., Secretary to the Electric Telegraph Department, sworn, and examined:—

P. B. Walker, Esq., M.I.C.E. M.I.E.E. 8 April, 1896.

1581. *Vice-Chairman.*] Are you familiar with the proposal before the Committee to construct an electric tramway along George-street to the Redfern Railway Station, and thence along Harris-street—a double line? Yes; I have looked over the plans, and so far as I can judge of the scheme I think it is a very good one. It appears to me to embrace all the latest improvements in connection with electric traction wires in England, America, and on the Continent; but there is one thing that has to be looked to, and that is the protection of the telephone wires connected with the Postmaster-General's Department.

1582. Do you think the system proposed would affect the working of the telephone lines to any serious extent? I think it would. It is a fact well known to all electrical engineers that where electric traction wires are brought into operation on the same ground as telephone wires, they materially affect the working of the telephone system.

1583. Touching the proposed electric tramway in George-street, would that affect the electric wires throughout the city, or only along the route? It would affect the wires materially throughout the city, because it is not only along George-street that you have to deal with. At all the intersections of the streets right to the Railway Station, there are branch lines forking out into each of the streets, and those wires would all be affected, and every wire coming in touch with those wires would also be affected by a traction wire through induction.

1584. Briefly explain in what manner they would be affected? They would be affected by induction; that is to say, anything affecting the main wire would impart an induced current into the wires laid from them to the different exchanges, and it might extend a mile or 2 miles, and affect the wires 2 miles away.

1585. Are we to understand that all the wires in George-street would be affected? Every wire would be affected.

1586. And wires in other streets would to some extent be affected? Decidedly so.

1587. Is there not some proposal to put all telephone wires underground? There is not a proposal to put all the telephone wires underground, but the Postmaster-General is making arrangements to put certain wires underground in George-street and Pitt-street, but still that would not in any way alter the effect of the traction wire on the telephone system. It would affect it just the same underground as it would overhead.

1588. It would be diminished in no way? No.

1589. You say that you approve of the proposed tramway as a public convenience? Yes. 1590.

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 8 April, 1896.

1590. Have you given any consideration to a possible method of overcoming this apparently serious difficulty in the way of its construction? Yes, I have. The only way I see of overcoming the difficulty is to adopt a metallic circuit—that is to have a go and return wire for the telephone system. Of course, that is only a matter of expense, and it is a system that is adopted in all parts of the world now. In America they have adopted it very largely, and it has been a source of trouble amongst the telephone and traction companies there as to who should pay for it. The traction companies have had a lot of trouble over it, but in many cases they have come to an amicable arrangement amongst themselves about this, and have agreed to pay half the cost of the alterations that were necessary in order to meet the case.
1591. Is the effect of your evidence that with electric tramways a metallic circuit for the telephones becomes an absolute necessity? It does in my opinion.
1592. With electric tramways that metallic circuit might be dispensed with? No. At present we have a very good system, and that would have to be entirely altered.
1593. What would be the cost of providing a metallic circuit consequent on the construction of the electric tramway? If it were put up throughout the whole of the city and suburbs it would cost £250,000. If it were only in the city it would cost £175,000. The present system has cost the Government, exclusive of instruments, £92,690 up to date, and it is a very good system and working very well.
1594. I understand from your evidence that it would not be possible to work the electric tramway system and the telephone system in conjunction without a mininum expenditure of nearly £200,000 in order to provide a metallic circuit for the telephone system? I do not think it would be possible.
1595. That is the only way in which the two systems could be worked together? That is the only way in which they could be worked satisfactorily.
1596. Have you any information on this subject of the electric tram system and the telephone system worked in conjunction? Yes; I have numerous extracts I could lay before the Committee.
1597. Could you prepare a statement on the matter? I could make a *précis*, including the extracts.
1598. Are you prepared to submit a statement quoting from authorities in support of the evidence that you have given, which of course will carry weight? Yes, I am.

THURSDAY, 9 *APRIL*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE CHAIRMAN).

The Hon. CHARLES JAMES ROBERTS, C.M.G.	JOHN LIONEL FEGAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	GEORGE BLACK, Esq.
CHARLES ALFRED LEE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Alfred Edward, Esq., Registrar, Metropolitan Transit Commission, sworn, and further examined:—

A. Edward, Esq. 9 April, 1896.

1599. *Vice-Chairman.*] You produce a statement with regard to the probable traffic between the Redfern Railway Station and the Harris-street terminus, and between the Harris-street terminus and the Redfern Railway Station? Yes.
1599½. What steps have you taken to ascertain that information? I placed a man near the Railway Station from the 29th March to the 4th April inclusive, that is a whole week, and he counted all the passengers on each 'bus as it passed there. That would give the number of passengers which the 'buses took to Pyrmont and which they brought from Pyrmont to that point.
1600. What point do you speak of when you say the Railway Station;—where did you stand your man? At the corner of Regent-street and Harris-street, and George-street West.
1601. That is beyond the Railway Station? Yes; about 50 yards past the gates.
1602. You are referring now to the probable Harris-street traffic? That is exactly what it is; I have taken a whole week through.
1603. Will you read the statement?

I have a statement of the number of passengers carried by omnibuses between Pyrmont and Railway Station, from Sunday, 29th March, to Saturday, 4th April, inclusive.

I have taken the number carried this week as a basis for calculating the number carried per annum, but would like to add that this is probably one of the best weeks in the year, and during the winter months the number carried would be considerably less.

I also enclose an estimate of the number of passengers carried annually by the omnibuses plying from Pyrmont and Railway Station to Sydney, and, although unable to obtain the actual figures from the Sydney Omnibus Company, I have gone to considerable trouble to obtain the average earnings of these 'buses, and consider the return a liberal one.

PASSENGERS carried on 'buses between Pyrmont and Railway, from 29th March to 4th April, inclusive.

	From Pyrmont.	To Pyrmont.	Total.
Sunday, 29th March	767	784	1,551
Monday, 30th ,,	996	949	1,945
Tuesday, 31st ,,	682	779	1,461
Wednesday, 1st April	872	995	1,867
Thursday, 2nd ,,	1,073	1,030	2,103
Friday, 3rd ,,	916	906	1,822
Saturday, 4th ,,	1,268	1,234	2,504
Totals	6,574	6,677	13,253

Passengers	13,253
Weeks	52
	26,506
	66,265
Passengers per annum	689,156

A. Edward, Esq. 9 April, 1896.

1604. You consider that a liberal estimate, because the week was an unusual week? Yes; it contained holidays.

Estimated number of passengers carried annually by 'buses plying between Pyrmont and Sydney—877,470.

1605. That would include those already mentioned as carried to the Railway? Yes. That leaves a balance of about 200,000 which is what is called the pick-up traffic.

Estimated number of passengers carried annually by 'buses plying between Railway Station and Sydney—2,328,720.

I base that calculation on these returns. At Pyrmont the average earnings of an omnibus at present, which is a very good time to take an average, because their earnings are as high now as they are at any part of the year, are 35s. per day; and on a Sunday the 'buses earn on an average of 45s. per day. Thirty-five shillings per day for 313 days in a year comes to 10,955s., and 45s. per day for fifty-two Sundays comes to 2,340s.; making a total of 13,295s. The passengers are charged 2d. each, therefore, there are six passengers for each shilling, and there are eleven omnibuses plying between Pyrmont and Circular Quay; and that gives a total of 877,470 as the estimated number of passengers carried by the Pyrmont 'buses to Sydney and back again, and on the same ground the railway 'buses earn an average of 40s. per day. They work only on week days, not at all on Sundays. That makes 313 days, and calculated on that basis with thirty-one 'buses it gives a total of 2,328,720 passengers per annum carried by railway 'buses to Sydney and back.

1606. *Mr. Wright.*] They are 4-horse 'buses, are they not? Only six of them. These six 'buses run six journeys in the day, doing the busy trips; most of the others are 2-horse buses which run regularly throughout the day.

1607. The Pyrmont buses are 2-horse 'buses, are they not? They are all 2-horse 'buses.

1608. You think the estimate which you have now furnished is a fairly liberal one? I believe it is an over-estimate of the actual number of passengers carried by the Pyrmont 'buses.

1609. You think that if you took the actual returns every day they would not come out quite so big as you have estimated? I do.

Norman Selfe, Esq., M.I.C.E., M.I.M.E., sworn, and examined:—

N. Selfe, Esq., M.I.C.E., M.I.M.E. 9 April, 1896.

1610. *Vice Chairman.*] Will you describe your qualifications? I am a member of the Institute of Civil Engineers, London, and also a member of the Institute of Mechanical Engineers of England. I am also a citizen of forty years' standing—and that is the most important, because I am here as much as a citizen as an engineer.

1611. *Mr. Lee.*] What is your object in appearing before the Committee to give evidence? I have been asked by several people interested in the city of Sydney to give evidence; and I was also asked by the Secretary to the Committee if I had anything to say on the subject, and I said that I should like to lay three or four points before the Committee for their consideration, and if they liked further information on those points I should be very willing to amplify them. All that I propose to say to-day will be very brief.

1612. I shall be glad then if you will lay before the Committee the objects which you have in view? The first point is that the proposed tramway seems to be a disconnected scheme—without any connection with the eastern, western, northern and marine suburbs. I think that anything that is done towards extending inter-communication in this city should be part of some complete scheme, which the proposed electric tramway does not seem to be. I am prepared to say that a complete city railway could be constructed for nothing—that is to say, that the incidental improvements to the city will pay for the city railway—that the city railway could be carried out in conjunction with the utilisation of what is now waste ground in such a way that the increased value of that waste ground, consequent on the construction of the railway, would practically pay for the railway.

1613. In other words you are prepared to show that it will be more advantageous to adopt a system of city railway, than a system of tramways? I am, because a city railway running down the western side of the city would have a series of stations within a very few yards of George-street, and if there were a station in Wynyard Square, one adjoining the Town Hall, and one abreast of the Circular Quay, it would so reduce the traffic at present in George-street, that it would largely perform the work which this electric tramway is proposed to do, without taking up a street.

1614. Are the plans on the walls those prepared by yourself in explanation of your scheme? The plans on the walls are pictorial illustrations made since the report of the Royal Commission was issued, and based on a digest of the evidence given before that Royal Commission.

1615. They have been prepared by yourself? They have been prepared in my own office at my own cost.

1616. On a scheme thought out by yourself? Yes.

1617. Will you be kind enough to explain those plans to the Committee, so that they can grasp the idea? The first part of the scheme is to utilise about 50 acres of ground which is now situated between Elizabeth-street, Pitt-street, the Belmore Markets, and Devonshire-street, and largely covered by the burial ground, and the Benevolent Asylum, as you see on plan No. 1. I propose that the ground should be levelled, as per plan No. 2. I would then make Devonshire-street at least 100 ft. wide, and throw open the space to the station, so as to have a large central city station like the termini of the railways in the great cities of Europe and America, which would be sufficient for the long distance traffic. From the centre of that station would run a 100-ft. avenue, down the level ground to Belmore markets, passing through a square about 500 ft. each way. Castlereagh-street would be extended right through the new ground so as to meet Castlereagh-street, Redfern, so that the trams instead of, as now, having to go from Elizabeth-street into George-street, and then back in front of the Railway Station, obstructing the legitimate railway traffic, would continue straight through.

1618. You mean that the trams passing from Castlereagh-street to Redfern, would continue straight through instead of turning to the station? Yes; the result of laying out this site would give about 10,000 ft. of frontages for sale.

1619. Frontages to what streets? To new Castlereagh-street, to the Square, to this main avenue, to Pitt-street, and to these cross streets proceeding past the cemetery area, which at an estimate of £200 a foot, would amount to £2,000,000. The Government taking a scheme like that in hand would not be bound to rush the market with their property; they could abide their time. If the terminus is built as is shown on this plan, it is very evident that the sites in its neighbourhood would command very large sums.

1620. You have dealt with the cemetery area, which you propose should be utilised in the way indicated? It is to find the money principally, and improve the city at the same time.

1621.

N. Selfe, Esq., M.I.C.E., M.I.M.E.
9 April, 1896.

1621. Have you estimated that there would be a large amount of money obtained from the sale of the frontages which would be created in the way you have stated? Yes.
1622. Will you proceed then with your scheme from that particular point;—how do you propose to get from the Railway Station to the cemetery side—overhead or under? The station* would be on its present site.
1623. How do you communicate with the cemetery side? I do not do so. The present Redfern terminus site would be only for long-distance traffic.
1624. You do not propose to go beyond that, across Devonshire-street? Not across Devonshire-street; but on arriving at the Redfern tunnel, where the present Darling Harbour line turns off, I would ease the grade of that line, which is now rather steep, and would make four lines of railway where there are now only two lines to go under the present George-street, by the Cyclorama. As soon as the new line got under George-street, it would turn to the back of George-street, behind Pemell's, and over Hoskins', and Tangye's premises, and run parallel to George-street, with the first station nearly opposite Anthony Hordern's, between Engine-street and the bridge, the end of the station being shown on the plan. From there the line would run level on a viaduct right over properties of very little comparative value—over the top of Messrs. Tangye's and Hoskins' premises level, going north, until it touched the ground about Goodlet and Smith's yard. It was originally intended to go in front of the Cathedral and the Town Hall, with a station at the present market site; but as the market site is now occupied, the site of the old Masonic Hall could be utilised by going to the back of the Town Hall. That would give a station in the very heart of the city, between Druitt-street and Market-street. The next station would be in Wynyard-square. To see the effect of going north from Wynyard-square, we take plans 3 and 4. Plan 3 shows the whole of that part of Sydney known as "The Rocks," every house on it being drawn from sketches, from Jamieson-street to where George-street and Lower Fort-street unite. Under this scheme it is proposed to resume 30 acres of the "Rocks," a large portion of which there are at present no titles to, and which, as you can shake hands across many of the streets with a neighbour on the other side of the way, could be purchased for a very small amount. When that site is resumed, it is proposed to level it and to make a continuation of George-street, which now turns very much to the right and runs downhill to the old Queen's Wharf. It is proposed to run a new George-street from the bottom of Gallows' Hill or Essex-street through Ives' Bond, as shown on plan 4, and erect a station on the western side of the new George-street, the present Lower George-street not being disturbed. That station would be bounded on the east by new George-street, on the west by a new street, and on the north by Argyle-street, and would be exactly abreast of the present Commissariat stores near the Circular Quay, and close to the steamers' wharf. When that station is built with all the necessary lines, it would take about 10 acres out of the 30 acres resumed, and you would have 20 acres of this site, right in the centre of the mercantile and the shipping heart of Sydney, which is now a relic of the early whaling days, upon which fine buildings could be erected, and would be able to sell the property. You would have about 2,000 feet of frontage to new George-street to sell. The railway having arrived at a sunken station in Wynyard-square, would divide into three arms. The western arm would continue along the high ground at the back of the Princes-street frontage, following the natural surface ground, and, crossing Argyle-street at the same level as Princes-street, it would be in a position to be continued to the North Shore at any time that the country is warranted in bridging the harbour to North Shore. It is part of that complete scheme. That would give you a bridge at an incline from Wynyard-square of 1 in 50, which is the ruling grade on the North Shore line, and it would also give you 150 feet head for vessels. The right-hand branch of these three would cross George-street and Pitt-street, over the site of the building now called Change Alley, at an elevation of about 25 feet above the Circular Quay, on steel columns—a viaduct in fact—in such a way that it would not interfere in the slightest degree with the present traffic of the Circular Quay, and then running into the hill under the Domain near the Water Police Station, would continue as the eastern suburbs railway round to Paddington, Waverley, Woollahra, Randwick, and Alexandria, and back to the circular railway, which is exactly the scheme approved by Mr. Deane and the Railway Construction Branch, and by Mr. Eddy, the Chief Railway Commissioner, and by Sir Henry Parkes when he was in power. I may say that as to the eastern suburbs there is no difference of opinion. The only particular in regard to which I do not agree with the other proposals is that instead of going across near St. James Church, and compelling all the passengers who want to go to the Circular Quay or the Manly steamers to walk that distance, I propose to take the line across the Circular Quay, and in this way I bring the western, eastern, northern, and the harbour suburbs traffic to a focus at the Circular Quay, and in such a way that the stations are not on the Quay, but just a biscuit's throw from it, and you have there a centre, and anybody coming from Randwick could go to Manly, or anyone could go from Hunter's Hill to Burwood, and have a minimum amount of distance to walk in changing from one means of transit to another. The 10 acres of this level site which I have just spoken of would be for a station for such trains as those running to Liverpool and Penrith—short-distance trains—and in this way we should have travelling parallel to George-street, and at a very short distance from it, a northern line, eastern circle, western circle, and the direct traffic line from the station. There would be four distinct lines of traffic running parallel to George-street which would probably give you a train every five minutes; in fact, it could be made just like the circular railway in London. Under this scheme we should get Strathfield, Hornsby, and the northern suburbs, and the city railway connected in one large circle, and we should connect the eastern suburbs, Paddington, Waverley, Woollahra, in a smaller circle, and we should connect the main suburban line to Parramatta with all the city and eastern suburbs stations direct.
1625. Does that complete the description of your proposal? That, I think, is all I need say.
1626. That is an outline of the scheme? Yes. There is a great deal of detail that might be gone into to show why it should be carried out.
1627. You have offered no opinion as to whether, in the event of its being considered advisable to have a system of tramways in the city, that system should be an electric one or any other? I think that before this Committee recommends the construction of an electric tramway, they should have before them the fullest information as to the working of the Paris tramways, which are worked under the compressed-air system. The compressed-air system has been so developed during the last three or four years that its efficiency has been doubled, and at the present time I believe there is 10,000 horse-power being worked in Paris in supplying compressed air, not only for tramways, but for multifarious objects. That is one point which I think this Committee should have before it—a comparative statement as to the merits of the compressed-air system and the electric system. 1628.

* Note (*on revision*):—Main terminus.

N. Selfe, Esq., M.I.C.E., M.I.M.E.

9 April, 1896.

1628. *Mr. Black.*] Is the compressed-air system worked above ground? The pipes are laid under the ground from a power-station just the same as from a cable station.
1629. The vehicles run above ground? Yes.
1630. It is not on the exhaust-tunnel plan? No.
1631. Will you kindly state what you mean by the compressed-air system? Under the compressed-air system a car or dummy carries a small engine which is worked by compressed air, and this is supplied by a pipe like a gas or water pipe laid along the street, and at any crossing-place a driver can take in sufficient air in half a minute to run him 2 or 3 miles. A number of devices are in existence for taking the air in automatically—as the tram goes slowly over a certain spot, it makes a connection and takes in the air.
1632. In that case there would simply be the roadway and the pipe? Yes.
1633. No overhead gear? No overhead gear whatever.
1634. How long has that system been working? About fifteen years; but it laboured until lately under the great disadvantage that they got only about 33 per cent. efficiency of the main engines, whereas with electricity they got (say) 75 per cent., but by recent improvements they have brought it up until they get 90 per cent. efficiency now.
1635. Do you know how many miles of travelling there are? I know that there are a number of towns in France, and some in Switzerland.
1636. You were speaking of Paris just now? Speaking apart from Paris, I know that it has been running for some years under the Megarski system; but recently it has been adopted in Paris under the Pardy system of taking the air from mains like water-pipes under a street, so that the car has nothing whatever to carry but small reservoirs, which can be charged at intervals from the main.
1637. There is a connection between the car and the main worked by the man working the car? Yes; I myself saw in San Francisco an experimental car charged in twenty-nine seconds which ran for 2½ miles with that charge and with about twenty people aboard—that is some years ago.
1638. You say you remember it some fifteen years ago in Paris? It is some fifteen years that the compressed-air system of Megarski has been running in France.
1639. How long since it has been adopted in Paris? Under the improved system of Popp, compressed air has been supplied all over Paris for working machinery generally, the same as we have the hydraulic power here for a number of years; but only during the last year or so has it been adapted to the tramways.
1640. That feature of traction having appealed to your intelligence, has it occurred to you that in that progressive part of the world, America, the electric system appears to have taken a complete hold as a system of traction for cities? That is the simplest thing in the world. There is a halo of mystery which surrounds electricity, and people believe electricity is capable of everything. You have only to make a proposal connected with electricity, and you can get £100,000 to develop it before you can get 10s. for anything else.
1641. That is hypothetical to a considerable extent? No; it is a fact.
1642. Let us deal more with the facts of the case; there are hundreds of miles of electric tramway in America at the present time conducted by a very progressive people who, we should imagine, would adopt any more complete and less expensive system, such as that set forth by yourself;—how is it that they have not adopted it? Because the Americans try every new thing; and when it does not answer they pull it up. Twelve years ago the Americans were far ahead of the people in England in electric lighting. There is hardly an electric-lighting system in existence in the United States at the present time which was in existence there twelve years ago, because it is utterly out of date; and we have no evidence whatever that the electric system in use in America to-day will be looked on in ten years time.
1643. Can you mention any part of the world where this compressed-air system of traction is generally used? I can only tell you now where it is largely used.
1644. Is that not in an experimental form? I do not think so, considering that I rode upon compressed-air tramways twelve years ago.
1645. But in the city of Paris to-day they have electric trams and horse trams, have they not? Yes.
1646. And you say the compressed-air trams as well? Yes.
1647. So there is a mixture of systems there? Yes.
1648. Therefore the compressed-air system has not subdued every other? What I want to say is, that this Committee should have absolute data before them before they decide.
1649. How is that to be obtained by the Committee? The Departmental officers who supply you with information should be asked for their data.
1650. Are you aware of any experts in the city of Sydney who are conversant with the compressed-air system? I presume that the officers of the Railway Department who are recommending this electric system are prepared to show the Committee why they do not recommend the compressed-air system.
1651. Then you are of opinion that, if the compressed-air system is a success, it would be much wiser to use it for the city of Sydney tramway system than the overhead-wire system? I am of opinion that it would be better to so do, for these reasons: First of all, the labour required to manage it is of a much lower grade. There is nothing to get out of order—a simple ploughman could work the air-engine. It is like driving a donkey-engine on the wharf. The air would be supplied from large engines of economical type, like those at the power-house working the cable tramway. There would be no disturbance of the telephone or telegraph system. There would be no danger of injury from any fracture of wires, or anything of that kind. If the power could be supplied at the same price, it has so many advantages to warrant its adoption that, with the little experience I have had, I think it certainly ought to be thoroughly investigated. I am not saying that it is better, but I say that it presents so many features to recommend it that it should be thoroughly investigated before we adopt a system of electricity, especially the overhead-wire system.
1652. Do you know anything of the speed attained? It would run any speed that would be allowable on the street. Of course, compressed air was used in the making of the great Simplon tunnel and the Mont Cenis and St. Gothard tunnel.
1653. Even now you are unable to inform the Committee that as a system of traction it has been generally adopted in any city? It has generally been adopted in the city of Nantes, I think, continuously for ten or twelve years—under one system, which is a system not so far advanced as the one in use in Paris.
1654. Would there be any disadvantage in mounting steep grades with that power? Anything that any motor will go up it will go up with compressed air—anything where the wheels will turn. The compressed air has only to turn the wheels the same as electricity has, therefore the question of grade does not apply to any particular system of power. Where steam would go compressed air would go.

N. Selfe, Esq., M.I.C.E., M.I.M.E. 9 April, 1896.

1655. Steam or electricity, or any other system? Yes.
1656. Leaving out of view for a moment the question of the city railway, and having well in view your very large travels and experience in the matter, have you any strong objections to raise against having a system of tramways in the streets of Sydney—George-street in particular? I think that George-street being the centre of our retail traffic, and being opened nearly every week for sewers, water-pipes, gas-pipes, and hydraulic companies' pipes—hardly a week goes by in which it is not disturbed—if two lines of tramway are laid down that street you must give up all hopes of having any other traffic on the street, unless you first of all make a subway the whole length of the street, and put all the gas, water, sewer, and hydraulic pipes in that subway, so that if you once make a beautiful street with a tramway you will never have to break the surface again, but can go down man-holes to the subway.
1657. That, I presume, would apply to any system—compressed air, or any other? Yes; that applies to a system of tramway, whether it is electrical or cable, or compressed air.
1658. Is that your chief objection to the tramway system in George-street? Yes, that is my principal objection. Three or four friends having places of business in George-street have said to me how strongly they are opposed to it—how it will injure their business—and I can see at once that it would; but the objection they take would be minimised if there was a subway to prevent the breaking up of the street for the pipes.
1659. In other words it would drive the present large vehicular traffic out of that street altogether? Yes; people could not go in their carriages, for instances, to David Jones'.
1660. Why do you lay such stress on the water and gas mains in George-street;—do they not exist in other streets of the city as well? Not to anything like the same extent.
1661. Do they not in King-street? Well, they are small, and they are not main trunks. My office is in George-street, and I may say that hardly a week goes by that George-street is not opened up.
1662. But of necessity there must be all that system of pipes in King-street, must there not—water, gas, and hydraulic power? Branch mains; but I think the main trunks run along George-street.
1663. But the fact remains that there are the systems there? Yes; but not to the same extent.
1664. Have you noticed any objection of that character since the cable tram was constructed in King-street? The cable tram has not been open very long. There are no heavy mains in King-street that I am aware of.
1665. But if the objection is a very serious one, would it not apply in a minor degree? It would, I have no doubt.
1666. But have you noticed that there has been any great obstruction? I am very seldom in King-street, but I see a great deal of George-street.
1667. As a matter of fact, as far as the city of Sydney is concerned, they are perpetually breaking up streets from the beginning of the year to the end of it? I suppose that during the last ten years they have spent enough in breaking up streets to make a subway twice over.
1668. Have you ever seen in any other city such a system as that which is adopted by the City Council of Sydney in tearing up the streets? It is not the City Council, but the Gas Company, and the Water and Sewerage Board, who can do as they like under their special Acts.
1669. Are you aware that it is proposed to remove these pipes to a site on either side of the road—that under this proposal to construct a tramway, part of the estimated cost would be for the removal of these pipes, and the placing of them in such a position that if they have to be interfered with, it would not interfere with the tramway line? I do not know anything about that.
1670. If such were the case, would it not minimise your objection? Yes; if it were part of the proposal to put the pipes in a subway, that would meet the case.
1671. Or in any other way? If it is proposed to put them under the path, it is nearly as bad to rip up the path as the road and much worse for foot-passengers.
1672. Well, supposing that those objections were overcome, do you think that the running of a tramway through George-street would materially interfere with the general traffic of the street? It would interfere with the general traffic—of course it would largely drive the 'bus traffic out. I do not know that that would be an unmixed evil—perhaps that would be good. I have no prejudice against the tramway at all, but only want to present the different aspects of the question.
1673. Are you acquainted with New York? Yes.
1674. You know Broadway? Yes.
1675. That at the city end is very narrow? Yes.
1676. And carries a traffic much greater than George-street does? Yes.
1677. And have they not a system of electric trams there? Yes; but the license to run those electric trams was given against the wishes of the citizens, and a number of aldermen got into gaol through it.
1678. But they ran, nevertheless, and the traffic is now being conducted? Yes.
1679. Coming back to the idea of the city railway, supposing that the city railway were brought in somewhat on the lines indicated by yourself, would that not still leave the necessity for dealing with the congested passenger traffic in George-street, Pitt-street, and Castlereagh-street? That opens up another point which I was going to bring before the Committee, and that is this: George-street and other streets of the city, now that the blocks are put so close together, present a surface on which the traction of an ordinary vehicle is as small as it is on a railway—that is to say, an ordinary vehicle presents all the advantages as regards reducing the tractive power that a tramway does—and there has been such a development of motor cariages lately that it appears probable that within a few months we shall be able to have horseless omnibuses that will be able to run on a street like George-street, closely blocked, at as small an expense as a tramway. One great object in having a railway, or tramway, is, that vehicles should run at the smallest expense for tractive power, and whether horse or any other power is used, a certain expenditure of power can drag a bigger load than could be drawn on a rough road. With large wheels like those on ordinary omnibuses running on the close blocks of George-street a horse would probably draw as heavy a load as he could drag a big load on a tramway with the ordinary small wheels, and on George-street, with ordinary omnibuses, a horse will drag as big a load on the blocks as on rails, with a larger diameter of wheels.
1680. But no system of horseless vehicles could be adopted by a company, or by the State, to conduct a traffic? It could be adopted by a company. I have no doubt that a company will run them in opposition to this tramway before long, if the tramway is put down.

1681.

N. Selfe, Esq., M.I.C.E., M.I.M.E. 9 April, 1896.

1681. But could a system of that kind compete against a three or five minutes tramway system? I do not see why the Sydney Omnibus Company could not run in opposition to horseless omnibuses alongside your tramway car, if they introduce these motors that are now so successful in Paris and other European centres. They could run all over the street where they liked, and the tramcar would be confined to the rails.

1682. But I think you will admit that that system of traction is somewhat in its experimental stage at the present time, is it not? It is experimental so far as that it is being improved every day; but it has reached a practical stage.

1683. Well, having to deal with matters as they now stand, and if it is found that a traffic exists, and it is necessary to deal with it, you would not offer any reasons why a tramway should not be constructed? I only offer this as a reason for going slowly with this proposal, that is all.

1684. You have not quite answered my question yet. I asked you whether, in the event even of a city railway being constructed, as suggested by you, would it not be necessary to deal with the congested traffic in George, Pitt, and Castlereagh Streets—that is to say, the mere fact of there being a city railway would not deal with that traffic? I answered that question by saying that if there is a railway on the west side of George-street, which could be approached from George-street, I think Castlereagh-street would be about the best street for a tramway, and not George-street, where it would run so close to the railway.

1685. Are you keeping in view the fact that this proposed tramway is to go through Harris-street to Pyrmont? Oh, yes.

1686. That would be outside the scope of your proposed route for a city railway? Well, of course, any tram that came along Pitt-street or Castlereagh-street could go along Harris-street.

1687. Have you ever considered that the suburbs of this city bear a very strong relation to the traffic in the city; that is to say, that the traffic from the suburbs pours in and pours out of the city every day? It is on that that I base the whole of this proposal.

1688. And which to a certain extent was met by the steam tramway extension, was it not? Yes; but in connection with nearly all the traffic that now comes in from the suburbs the passengers have to change from a train to a tram, which they would still have to do under the electric system, because it is only a system disconnected from the railway, and passengers would have to alight, whereas by the city railway system persons coming into business would come in from all the suburbs, and be discharged at the station nearest to their place of business.

1689. That would apply to those persons living near to the suburban railway stations; please confine your thoughts for a moment to the 'bus and tramway traffic which also comes from the suburbs, and suburbs which are not within reach of railway stations; that is the traffic which it is proposed to meet by a system of tramways? The only tramway I have in my mind is George-street and Harris-street, and possibly Pitt-street. As far as Circular Quay and Harris-street are concerned, it would be merely in competition with the railway 'buses. Harris-street would, of course, be a separate branch, and would serve a suburb not now served by tramways, but I do not see that there would be any great advantage in changing at the Railway Station into an electric tram, as compared with changing into a George-street 'bus.

1690. Your sympathy, of course, is strongly in favour of railway extension into the city? Yes.

1691. At the same time, are the Committee to understand that you do not offer any very strong objection to a system of tramways? No; except in George-street. I think that George-street is narrow, and it would be a good thing for the city if you could keep a tramway out of George-street.

1692. That being one of the main arteries, would it not be a street likely to offer the greatest traffic, and hence the largest revenue? Yes; it might offer the largest revenue. If George-street were like Market-street, San Francisco, it would be a very different thing. Broadway, of course, is narrow, and the tramway there is not an unmixed advantage.

1693. The city of Sydney, considering the population at the present time, is very large, is it not? Exceedingly large, I think.*

1694. If the population within easy reach of the city increases in the same ratio within the next twenty-five years, it will be almost impossible to get through the streets? Well, Sydney is all moving southward.

1695. But viewing the fact that necessity arises for dealing with the passenger traffic at the present time within the city, your general opinion is, that the tramway would do better in some other street than in George-street? For certain reasons. If this electric tramway is intended to do away with the present railway tramway down Elizabeth-street, it would be much more convenient for the business people on the western side of the city, and if it does not cost too much money, I see the advantage it would be; but as I said when I commenced my evidence, I am afraid that a tramway down George-street will mean the indefinite postponement of a city railway.

1696. *Mr. Clarke.*] I think you have stated that you have no objection to an electric tram running in George-street? Not *per se*. But I would far sooner have the conduit system than the overhead wire system. With the little I know of the electric business, I cannot conceive how the overhead wire system could be carried out without to some extent interfering with the telephone and telegraph wires.

1697. But leaving that out of the question, is not the conduit system more expensive? Certainly it is, and it is not so thoroughly developed.

1698. But the conduit system is in operation, I suppose, in some parts of the world? In America there are three or four systems now being largely exploited. In fact, if I may say so, I think the Committee ought to examine Professor Warren, who gave an address to the University Engineers' Societythe other night on the electric tram systems in the United States, in which he explained a great deal about the conduit system.

1699. There is another system which has been partially tried in Sydney—that is, the accumulator? That is not sufficiently developed. It has of course been tried in two or three different ways; it means carrying an enormous load in the car.

1700. Would it not, then, answer generally? The accumulator system means carrying at least as heavy a load as the passengers;—that is, if you carry 2 tons of passengers, you have to carry 2 tons of accumulators.

1701. You would require to have larger and heavier cars? Yes.

1702. You think that on the whole the overhead electric wire system is not equal to the underground or conduit system? I think the overhead system is much more liable to danger and difficulties with the wires,

* NOTE (*on revision*):—This question I think was, "The traffic into and out of the city of Sydney, considering the population at the present time, is very large, is it not."

wires, the wires breaking and injuring either foot passengers or horses, and that the conduit system is much safer.

1703. The cable trams at present run from King-street to Rushcutter's Bay;—do you consider that system is suitable for the public, or do you consider an electric system cheaper and better? I would prefer to have a cable system in George-street rather than an electric system. The cable system from Rushcutter's Bay is one of the most successful in the world. It has been carried out under greater difficulties than exist in any city that I am aware of, or have read of where they have laid a cable road.

1704. Notwithstanding the difficulties, and the expense being double what was at first intended, you think it is a success? Yes. There would not be anything like the number of turns and twists in a cable tram in George-street that there are in the King-street-Ocean-street cable tramway, where the rope has to go round about 750 wheels from one end to the other, in order to turn the numerous corners, and a cable road in George-street would be a much greater relative success than it is on the east and west route.

1705. In connection with the present cable tram, have you ever heard of any obstruction to the traffic, more especially at the King-street end? You see it every day. You cannot ride upon the tram without seeing people who have to get out of the way. Everybody has to give way to it. The conductors sometimes get frantic and ring the bell for people to get out of the way, and the people have to make room for them. You cannot stand anywhere near the tram without seeing how the public are incommoded if they have vehicles of their own.

1706. I suppose that is only in King-street? Of course it is really nothing. The individual must give way to the community. There is nothing in that, except that in George-street, which is so much of a promenade to the retail shops, there seems to be, in my opinion, a desire not to obstruct the ordinary traffic if you can help it.

1707. But is not that portion of George-street from Park-street to the railway terminus much wider than King-street? Oh, yes. From Druitt-street to the Railway Station much of what I have said does not apply.

1708. You merely then allude to the lower portion of George-street, from the Circular Quay, or what is called the Old Queen's Wharf, to Druitt-street? Yes.

1709. What is your opinion of having a single line in George-street going one way, and having another line in Pitt-street starting from the Circular Quay and going as far as the Town Hall, and then having a double line to the Railway Station along George-street? Well, as a citizen I would prefer the two single lines in two streets, but as an engineer I know that it would cost a great deal more than having two lines in one street. It would be much more economical to have the two lines in the one street; therefore, speaking from an engineering point of view, I should have to recommend the two lines in one street. But looking at the matter from the point of view of hindrance to the ordinary traffic of the city, I think it would be an advantage if the traffic were to go in one direction through one street, and in the opposite direction through another.

1710. But you have stated that would be more expensive? Yes.

1711. Do you think that a double line in George-street would be dangerous to vehicular and pedestrian traffic, particularly in the lower portion of George-street; as I have no doubt you are aware it is intended in the wider portion of the street to have single poles, and in the narrow portion of the street it is intended to have poles on the kerb on each side;—you have said that you consider it dangerous to some of the carriages going to the shops? "Dangerous" is a relative term. I think there would be accidents occasionally; there are bound to be accidents under any system.

1712. But I suppose you are aware that this system is working in England, America, and on the Continent, and, according to report, is working satisfactory? Oh, yes.

1713. Then, do you see any objection to having it in George-street in the same way? Only that in America they are always developing it. They are now developing the conduit system, and there are two or three cities that are putting that down, and if they make it a success within the next month or two, and find it is preferable to the overhead system at not very much greater expense, I think it would be much better for Sydney to adopt the conduit system. It would require more engineering—more science. Of course there is no particular science in the overhead system; it is simply poles and wire.

1714. I think you have stated that the overhead system would be dangerous in interfering with the telephone and electric telegraph wires? I think so, but I am not a telegraph engineer, and would not give an absolute opinion. I may say that in Hobart the tramways are run with overhead wires. They are very ugly, and make a very nasty squeaky noise, although they are by one of the greatest firms of electrical engineers in the world.

1715. Can you state how the electric system is working at the present time on the North Shore? No, I cannot. I know it has been in the experimental stage, always changing, for a long time.

1716. *Mr. Roberts.*] I understand that you do not appear here as an opponent of the proposed electric tramway? In no way.

1717. But you suggest that it would perhaps be better for it to go down some other street than George-street? Yes; I think it would be better if, at any rate, one line were out of George-street, and I would sooner see both lines out of George-street and in such a street as Castlereagh-street.

1718. Does it not strike you that a large amount of the passenger traffic would be lost to the tramway if it were not in such a business thoroughfare as George-street? Well, that is as though the people existed for the tramways, and not the tramways for the people. I take it that the tramways are not to be there as a private speculation, but as belonging to the State for the accommodation of the public, and of course it is a question of give and take. You have to accommodate a certain section of the public at the inconvenience of another, and I am trying to look at the matter from the aspect of getting the greatest good for the greatest number.

1719. But does it not strike you that a large amount of the passenger traffic on the George-street tramway would be what is called pick-up traffic—persons engaged in business going from one part of George-street to another—passenger traffic that would not be obtained if the line were to go down another street, such as Castlereagh-street? Certainly you would lose that traffic.

1720. Either that, or if the tramway were constructed down Castlereagh-street, do you not think that a large portion of the business traffic would be taken out of George-street altogether? I think that a large number of people who now go down to their business morning and evening by the George-street omnibus would in preference go by the electric tramway, even if they had a little farther to walk to Castlereagh-street;

N. Selfe, Esq., M.I.C.E., M.I.M.E. 9 April, 1896.

street; but I think that you would lose the pick-up traffic of persons going shopping. They would not go to Castlereagh-street and then go back to George-street.

1721. And the probability is that Castlereagh-street would become what George-street is to-day? We do not find that the tramway in Elizabeth-street has made that another George-street.

1722. Do you not think it appears to be coming that way—there is a larger number of business premises in Elizabeth-street now than there was a few years ago? Yes; but only what you might expect from the expansion of the city.

1723. With regard to the objection that you have to the tramway going down George-street, namely, that the street would have to be taken up so often for communication with the water, gas, and hydraulic pipes, if the tramway were put down Castlereagh-street, for instance, the same objection would then hold good which now applies according to your argument to George-street? Yes. But there is not so much private traffic of carriages and buggies in Castlereagh-street as there is in George-street.

1724. But if the tramway went down Castlereagh-street probably that traffic would go there too—a large amount of the business traffic of George-street would go into Castlereagh-street, and then your objection about taking up the street would be applicable to Castlereagh-street? After a number of years it would; but it would take a very long time to get it away from the present business premises in George-street.

1725. Do you not think that if a tramway went up George-street, with a one-minute service, the vehicular traffic would be entirely driven out of George-street, and therefore those difficulties which you have mentioned with regard to the carriages drawing up to the large establishments, such as David Jones', would dwindle away, because, as a matter of fact, there would be scarcely any omnibus traffic in George-street with a one-minute tram service? I think that a tramway in George-street would do away with the omnibus traffic in George-street, and that, I think, would be an unmixed benefit.

1726. You will admit that an efficient one-minute tram service in George-street would serve all the people wishing to travel from one end of George-street to the other, or to the Railway Station? Yes, I think so.

1727. *Mr. Wright.*] I gather from your evidence that one of your principal objections to this tramway is that it is not a perfect scheme? That, so far as I can see, it is not connected with any suburban arrangement; it is merely, as I understand it, from the end of Harris-street to the Circular Quay.

1728. But if the Department say that this scheme is only a portion of a complete scheme to be ultimately carried out, would that alter your views on the subject? If I saw the plans of that scheme it might.

1729. For instance, if the Department contemplate eventually connecting the Glebe and Newtown, and all that outlying district, with the city by electric tram, would that lessen you objection;—if the Department say you may look upon this only as a tentative scheme with the view of ultimate extension—as a section of a whole scheme, in fact—would that lessen your objection to it? That would only apply to it as far as being connected with the present tram service.

1730. Altering the present steam service? Yes; and converting it into an electrical system. But I do not mean that. I mean in connection with the railway suburbs. Persons living it the railway suburbs at the present time, and those places that will be railway suburbs soon, such as the eastern suburbs and possibly suburbs in other directions, including the northern suburbs in a few years, when there is a bridge across the harbour, should, in my opinion, be able to get to the very heart of the city by rail, and it does not seem that this tramway would in any way give them that connection. People would have to get out at Redfern as they do now, and change into an electric tram, and it is only a question of degree as to whether it would be a little more comfortable than omnibuses rattling over the blocks. I do not think it would be much better than omnibuses if the blocks were smooth from one end of the street to the other.

1731. But if the Department suggest this tramway from George-street to Harris-street as a tentative scheme, and as a portion of a larger scheme to be carried out later on to all the suburbs, would that remove your objection to it? No. If this is a success they will convert the whole of the present trams into an electrical system, but my objection is that it will not enable passengers to get down George-street from the north and south of the city without changing, as they do now. Every morning thousands of passengers come in and they go out at night, and lots of them walk from Redfern as far north as King-street, or else take the tram or omnibus; and I maintain that at this latter end of the nineteenth century, in a city like this, people should be able to go without changing, say, from Burwood to King-street.

1732. You have had something to do with electricity, as an architect and an engineer, have you not? Yes, a good deal.

1733. Have we in Sydney any man whom you consider a first-class scientist as an electrician? I think that one of the best scientists as an electrician is a tutor at the Technical College. I forget his name at the present time. He is a scientific electrician. I am not an electrician. I have had to do with electrical engineering, and I examine into nearly all the electrical systems that are brought out here, and know exactly what is done here.

1734. Would you, as a business man, invest £1,000 in any electrical tram system in Sydney under any electrician you know here? No; I do not think I would.

1735. I want to ask you, as an engineer, a question on construction;—it is proposed by the Department to construct this tramway by laying rails of 70 and 73 lb. to the yard on the concrete, and with wood-blocking up to them, simply having tie-rods from rail to rail;—do you, as an engineer, think that that is a proper road to lay down in Sydney? It all depends upon the width of the flange. If the flange of the rail is a very wide one, and a piece of felt is put between the iron and the concrete I consider that is preferable to putting wood in.

1736. The flange cannot be very wide with a rail of 73 lb. to the yard; it is not a very big rail for a tramway? I cannot answer that question without knowing the weight of the vehicle.

1737. The car and dummy are estimated to carry 120 people; do you think it is a sound road if you lay down iron on concrete, considering the great concussion that there would be? With very heavy roads and light cars I do think it is a good thing, but it is a question of degree. Iron and concrete form the most perfect union with one another, and it is all a question of the weight of the rail and of the car. With light cars that would be a good system.

1738. Well, 120 human beings, averaging 1 cwt. each, would make 8 tons on eight wheels? Yes. With car and dummy there would be at least 2 tons on each wheel, I suppose.

1739. You think that with a big solid wheel and flange it is sufficient? Yes; but in an ordinary way I would prefer it laid on the concrete with some felt.

1740. With a buffer between? Yes.

N. Selfe, Esq., M.I.C.E., M.I.M.E. 9 April, 1896.

1741. *Mr. Black.*] In driving a tramway system by means of compressed air what should be the diameter of the pipes used? That is entirely dependent on the distance from the centre of supply and the number of cars to run. For the traffic in George-street, the cars running every few minutes, you might, perhaps, require 7-inch or 8-inch pipes; for a light traffic, 6-inch pipes; or for a smaller traffic, 3-inch pipes. The car which I saw charged was charged through a 1¼-inch pipe.

1742. It is usual to apply the air at fixed intervals? The pipes under the street are one immense reservoir of air.

1743. But I mean to supply the motors—about how far? It is simply a question of the dead weight. The Magarski cars to which I have referred took in enough charge to last for eight hours, but then they had to have reservoirs which weighed 1½ tons. By being able to charge at short intervals during the time passengers alight at prominent street corners or stopping-places you are able to reduce the weight of your reservoirs to a few hundredweight, and that makes your car so much lighter to travel about, so much easier on the rail, and so much less weight to propel.

1744. How is the air supplied—from standpipes or from the main? It can be supplied from standpipes, but as the system has been carried out hitherto the air has been supplied from something like a fire-plug. A piece of pipe with hose on it is simply pushed down a hole, and a supply of air is obtained from the reservoir.

1745. Does that necessitate a large opening? About 3 inches in diameter altogether, but in Paris there are some places where the car charges itself as it passes along; the wheels touch a trigger, and the pipe sticks up and makes a union automatically with the reservoir on the car.

1746. It is on the same principle as that on which some railway engines take up water? Yes; somewhat.

1747. Have you any reports of any kind from newspapers or otherwise on the running of those trams? There has been an account of them in the different scientific papers. There is a tremendous amount of literature on compressed air.

1748. You could not give the Committee any dates or name any journals, so that we might be able to obtain them? I could to-morrow let the Secretary know where to find an account.

1749. Will you do that? Yes, I will.

1750. You appear to imagine that if the city railway were constructed on the lines laid down by you, a tramway along George-street would not be necessary—is that your opinion? That is my opinion, absolutely.

1751. Taking into consideration the possible great development of Sydney, do you not think that your opinion is perhaps not well-founded? It is only an opinion, given for what it is worth. I might alter my opinion to-morrow, but I base it on this: That York-street is only a few yards from George-street, and if you had a passenger station in Wynyard-square—abreast of where we are now sitting—one near the Town Hall, and one on Brickfield Hill, with trains running, as they do on the underground railway in London, every three minutes on a circle, the *raison d'etre* for a tramway would almost disappear.

1752. But you see there will always be a large number of people travelling from one end of George-street to the other, independent of those who travel along the street for the purpose of going to the Railway station—a number of people who do not desire to go out of George-street in order to get from one end of it to the other, and if we have reason to suppose that the traffic in George-street has greatly increased, do you not think that for the George-street traffic alone it would be desirable in the public interest to have a service of some kind in that street for the carriage of passengers? I do. I see all the advantages of a tramway in George-street.

1753. You know, of course, that in Melbourne they have a tram service along Bourke-street, and also one along Collins-street? All those streets are more than double the width of George-street at the north end.

1754. I am not dealing with the width of streets, but the fact that there you have two streets running on parallel lines for the whole of their extent, until they both abut on Spring-street, but nevertheless both of those lines, although they have different termini, are payable;—do you not think it is possible that in a city like Sydney, with its great possibilities of development, tramway lines might be run along parallel streets even so near as George-street and York-street, that there might be a tramway service along Pitt and Castlereagh Streets as well, and yet all might pay? I think it is possible that ultimately they would.

1755. And taking also into consideration the fact that, no matter when the construction of a city railway might be decided on, the whole of the care necessary for laying it down and all the obstacles in the way of its construction, are likely to take a considerable time, even after the route has been decided upon, do you not think that it would be necessary to have something to fill up the gap in the meantime for the public convenience? Yes.

1756. You appear to have an objection to the electric overhead system because you think it is likely to go out of date before long? That is the principal thing—because I think it will be superseded.

1757. Supposing we had an overhead electric-wire system, what would stand in the way to prevent its conversion into a compressed-air system? Well, nothing at all, except that you would throw away all your motors.

1758. Could not they be adapted to the compressed-air system? No. An electrical motor, of course, would not be adapted for compressed air.*

1759. The cost of standards and overhead wires is trifling, I think—only some £4,000? Very small, relatively.

1760. That does not influence you? Not at all. What I think is that in Sydney we always seem to depend so much upon what is done somewhere else, and do not ever go in for original research. We constructed an electric line at Randwick which proved nothing but what was known before. Compressed air has been brought a certain distance, and I do not see why New South Wales should not try to bring it a step further, or, at any rate, ascertain what has been done, and it can be done at a very moderate cost.

1761. I think it is perfectly within the province of this Committee to discuss any means by which a tramway could be run along George-street—any motive power, whether it be electric or otherwise; I do not think there is anything to prevent us from discussing the advisableness of using compressed air or recommending

* NOTE (*on revision*):—This applies to the motive machinery only. The cars themselves it might be possible to convert.

N. Selfe, Esq., M.I.C.E., M.I.M.E. 9 April, 1896.

recommending it; what we are concerned with is an economical system of tramway along George-street which will serve the public well;—you seem to think that a system of tramway in George-street would be likely to destroy the trade there, as I understand you, partly because it would interfere with it as a public promenade? Yes; people going in their own vehicles.

1762. That would not apply if George-street were a wider street, would it? No.

1763. The construction of a tramway in Collins-street, Melbourne, has not destroyed that street as a public promenade, but, I think, has rather increased the number of promenaders? As I pointed out in reply to Mr. Clarke, my views do not apply to the south end of George-street so much, but more to the denser population of the northern end; but after all it is only a secondary matter.

1764. If you have a line so laid that there is no interference with the wheels of private vehicles, and if by the use of a tramway line you remove a quantity of other traffic which is independent and can use whatever part of the street it likes, and if you substitute for that a rigid system of traffic which must run in one groove, do you not think that, to some extent, you would have increased space available for the private vehicles? If you ensure that space being available by putting the pipes in an underground tunnel, I think a tramway in George-street will be a splendid thing for the city in many ways, if you ensure that the street shall not be continually broken up.

1765. My reason for thinking so is that in driving about the city I have always found it much easier, if it were not for the inconvenience of the service caused by the bad way in which the rails are laid, to drive along Elizabeth-street than along George-street, and my objection to driving down George-street was because of the great quantity of 'bus traffic all over the street and not in any fixed groove; in Elizabeth-street the trams carried more traffic than the 'buses in George-street, but went along a defined track, and I knew exactly where to go, and that the place I was in was a safe one? I agree with you in that.

1766. That traffic, which carries great numbers of passengers, but which is rigidly fixed on one route, does not interfere so much with people driving private vehicles as that traffic which can select its own route? Because the drivers of private vehicles are certain that if they keep on their ground the other traffic will not run over them.

1767. I am not quite clear as to what you said about the conduit system;—would you prefer the conduit system to the overhead-wire system? I would if it is really practicable at all, even if it cost many thousands of pounds more.

1768. You know that it is very much more expensive? I do.

1769. Have you heard anything of the recent objections to its use in San Francisco? I have not; but I know that it is being developed every day, and that improvements have been brought out only within this last month.

1770. But you have not studied the conduit system lately, as opposed to the overhead system? I have no practical acquaintance with it in actual work.

1771. Do you think that the accumulator system is impracticable? Not impracticable generally, but it is commercially impracticable at present, I believe.

1772. You recommend the construction of a tunnel under the street for the purpose of carrying all the pipes and the telephone and telegraph wires? Yes; the gas, hydraulic, water, and sewerage mains.

1773. Would you recommend that along all the trunk lines of the city? If they reach the importance that George-street has attained.

1774. Whether there were trams there or not? Yes; quite apart from the tramways, it is desirable.

1775. But would such an isolation—because I suppose it would be an isolation—of pipes and wires make all electrolysis impossible in connection with an electric tramway on the overhead-wire principle? That would largely prevent it, because each wire would be supported on insulators, and it is only by induction or leakage that injury could occur. They would not be in contact with the earth.

1776. Would that render the bonding of the rails unnecessary—the bonding of the rails, as I understand it, is the connecting of each rail with the next rail by copper wire, to prevent the current from leaving the rails? The tunnel would not make any difference in that matter.

1777. You think the bonding would be necessary? Yes, of course; but under recent conduit systems there is no electric current passing in an exposed conductor excepting immediately under the car, and it is impossible for a horse or a human being to put his foot on any piece of metal that is not cut off from the current; but as under the overhead system, of course the rails could be used for the return current.

1778. Have you given much thought to the motocycle system, which is now coming into vogue? Yes; I have given considerable attention to it.

1779. Do you think it is possible that any public service could be run by means of the motocycle? If all that is claimed for it is true—and it seems to be true so far—then it is possible.

1780. Do you think it is possible, with greater developments of the art of motocycling, to run a two-minutes motocycle service in a street like George-street? It would be possible, but I do not think it would be desirable.

1781. I suppose, if it were possible, it would be necessary to confine the running of the motocycles within certain limits? I do not see how you could put any restrictions on a motor vehicle that you do not put on an omnibus drawn by horses.

1782. Do you think it would be advisable to allow them to steer all over the street? Well, you allow omnibuses to do it, and they take up less room than the omnibuses do. You would have to pass fresh regulations if you found that they took liberties which are not granted to omnibuses.

1783. You are aware, of course, that, with the use of a vehicle which is not run along rails, steering gear is necessary, and that a great factor of expense in any service whatever is that of labour; and, therefore, the steering gear being necessary with the motocycle, it would be necessary to pay the wages of one steersman for every motocycle? I do not know why the steersman could not start and stop a motocycle the same as a man starts and pulls up an omnibus.

1784. You think one man could act as driver? One man does act as driver on a small motocycle.

1785. You do not think, then, that it would be an item of expense to be considered? I think it would be merely the substitution of power for horses.

FRIDAY,

FRIDAY, 10 *APRIL*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY, (VICE-CHAIRMAN).

The Hon. CHARLES JAMES ROBERTS, C.M.G.	JOHN LIONEL FEGAN, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, ESQ.
HENRY CLARKE, Esq.	GEORGE BLACK, Esq.
CHARLES ALFRED LEE, Esq.	FRANCIS AUGUSTUS WRIGHT, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Isaac Ellis Ives, Esq., Mayor of Sydney, sworn, and examined:—

I. E. Ives, Esq. 10 April, 1896.

1786. *Vice-Chairman.*] How many years have you been in business in the city? I have been in business on my own account at the Argyle Bond since 1859; but I have been in Sydney since 1856.
1787. The growth of the city has been under your observation for forty years? Yes.
1788. *Mr. Clarke.*] Can you give us any information on the subject of the proposed tramway? Since this matter was first broached my time has been more than fully occupied both night and day, so that I have had very little opportunity to go into the details of the proposal.
1789. Are you in favour of the proposed line? I am not.
1790. Will you explain why? One main reason is that I think that the construction of such a tramway would prevent the construction of the railway into the city; and I consider that such an extension of the railway would be of great benefit, not only to the people of Sydney, but also to the producers in the country, who would thereby be enabled to send their produce direct from the station at which it was loaded to the warehouse or to the ship's side.
1791. Do you think that the proposed tramway would interfere with the general traffic of the city? I am of opinion that it would interfere very materially with that traffic. If I may be allowed to say so, I think that, in offering this proposal to the public, the peculiar formation of Sydney has been to a great extent lost sight of. That portion of the city lying between Dawes Point and the Railway Station is bounded to a great extent on two sides by the waters of the harbour, and the access from the harbour to George-street—which is the main artery of traffic—is in every case very steep, and if George-street is to be taken up by an electric tramway the rest of the traffic of the city will be materially interfered with.
1792. Do you think that the proposed line will be dangerous to pedestrians? I think that it will interfere materially with the traffic of the city, taking into consideration the peculiar contour of Sydney.
1793. Would it interfere with the loading or unloading of goods in those parts of the city where the streets are narrow? At Essex-street, George-street is only 33 feet 2 inches in width between the kerbstones, and as 16 feet are to be taken for the tram, that will leave only 8 feet 6 inches on either side for the traffic of the street, which would make it impossible for some kinds of traffic to get along; and if the electric tram came into collision with, say, a load of wool it would come off second best. Then, too, 8 feet 6 inches would not allow any vehicle to stand opposite any shop-door in George-street while goods were being loaded or unloaded. Such an arrangement would not allow half a chest of tea to be unloaded at a chinaman's shop, or a cask of beer at a publican's.
1794. *Mr. Black.*] Did you ever see a vehicle 8 feet 6 inches wide? No; but they have to unload "end on."
1795. *Mr. Clarke.*] Would the tramway be dangerous to pedestrians? Undoubtedly; because if goods were being unloaded, and the pathway were covered with goods, as you see in different places at all hours of the day, the foot passengers would have to step out into the road, and there would be no room for them.
1796. It is proposed that there shall be a two-minutes tram service. Would that make it difficult for vehicles to pass? I take it that a two-minutes service would be a continuous service. I should be very sorry to have to get between trams running every two minutes. Besides, they would not run exactly to time.
1797. Is there a large amount of passenger traffic in Harris-street? There is a considerable amount of traffic there. About 125 vehicles of all kinds turn out of George-street into Harris-street per hour.
1798. Do you think that the traffic is sufficient to justify the construction of an electric tramway through the street? I think that it would to a great extent. Harris-street is the main artery of traffic in that part of the city. The Government have expended a great amount of money there, and all the traffic to the railways and other Government sheds goes along Harris-street.
1799. You are aware that a number of vehicles licensed by the Transit Commissioners run along Harris-street? Yes.
1800. Do you think that the 'buses there would interfere with the earnings of the proposed tramway? I think that that is a matter beyond my province. I am not a shareholder in any of the 'bus companies.
1801. You have no control over the traffic of the licensed vehicles? Personally I have no control over them.
1802. The Corporation has no control over them? No; the Transit Commissioners control the licensed vehicle traffic in the streets.
1803. If the Transit Commissioners wished, could the heavy traffic be diverted from George-street into some street which has less traffic? No; we have not the power to do that, as I read the Act. I may mention that the City Council endeavoured to have a scheme of that sort formulated, and we were informed by the City Solicitor that we had not any power to make by-laws on the subject.
1804. Unless an Act of Parliament was passed, doing away with the Transit Commissioners and giving the Council special power, you would have no power at all? We have no power.
1805. Is that a desirable state of affairs? It is a very undesirable state of affairs, and that is not our only grievance.
1806. Are you aware that the 'bus fares are lower than the tram fares? I am not aware what the tram fares are to be.
1807. The tram fares to the suburbs are much higher than the omnibus fares? I think that that is ample proof that the public are better served by the omnibuses than by the present steam-trams, while the former are certainly the more cleanly.

1808.

I. E. Ives, Esq. 10 April, 1896.

1808. You think that it would be inadvisable to construct the proposed tramway, because it would interfere with the extension of the railway to the Circular Quay? I am of opinion that it would be a great disadvantage to have the proposed tramway for the reasons I have already given. I am sure that such a tramway would be very inconvenient to the citizens, although some of them seem to think to the contrary.

1809. Mr. Lassetter has stated that personally he would be very glad to see a tramway carried through George-street? I saw that; but Mr. Lassetter was speaking for himself, and he is in the happy position of possessing a frontage to York-street. Few others are in that position. He does not receive his heavy goods in George-street. All his heavy work is done in York-street. He never requires to back a dray up to his George-street front. But further down, by David Jones', Robertson's, John Sands', and those places, you will find eight or ten gateways in George-street, at which very heavy loads are received every hour of the day, and the proposed tramway would inconvenience the shopkeepers there to a very large extent. Not only would the shopkeepers be inconvenienced, but the citizens generally would be affected.

1810. From Barrack-street down to Queen's Wharf there are not many people in George-street who have back entrances? Every man from Wynyard-street has a back entrance. Orme, Keigwin, & Co., for instance, employ trolleys with four horses, and you will often see them waiting to get into a 9-or 10-feet way. How could those people conduct their business if the proposed line were made? It takes more than two minutes for a trolly to turn into a gateway like that.

1811. It is ultimately intended to run a much more frequent service than a tram every two minutes? Well, in that case the tramway would either have to stop, or the people there would have to throw up their business.

1812. Mr. Newman, of David Jones & Co., approves of a single line of tramway up George-street, returning along Pitt-street? That would not suit. It would be too expensive.

1813. The expense would be more, but there would not be so much danger to traffic? If you take Pitt-street as a whole the average width is much less than the average width of George-street. There, again, you are met with the difficulty of there being more entrances and more gateways than there are in George-street.

1814. You think, then, that even a single line of tramway in George-street would not be advisable? I think that the tramway is altogether a mistaken idea. I do not think that the proposal is suitable for a city like Sydney. If you had a city like Bathurst or Goulburn, with streets 100 feet wide, and on level ground, it might answer; but in Sydney, where space is so limited and traffic so heavy, anything of the sort would create danger, and, in the end, prove a nuisance to the people conducting business along the line of route.

1815. Do you remember that some years ago there was a horse tramway down Pitt-street? I remember it well. I never drive over the street now without remembering how the rails stood up.

1816. Why was that tramway removed? I know that it killed two or three of our prominent citizens. There were several old friends of mine run over and killed by it, although it was only a horse tramway.

1817. *Mr. Fegan.*] I suppose you are not well up in the science of electricity? No; I am not an electrician.

1818. You come to give evidence more upon the question as to how the proposed line will affect the commerce of the city? I am not prepared to give any evidence whatever of a scientific nature.

1819. You object to the construction of the proposed tramway principally because you think that the extension of the railway into the city is a work of greater necessity? That is one of my principal reasons. A city railway would remove the necessity for those abominations of steam-trams, and would do away with the idea of an electric tramway altogether.

1820. Are you speaking now as Mayor of the city, or in your private capacity? I am here as the Mayor of the city of Sydney, and whatever I say here I say as the Mayor of Sydney.

1821. Have any petitions been presented to you or to your Council against the project by the Committee? No.

1822. Are you aware that the Committee have received petitions in support of the project into which we are inquiring? I am not aware of it.

1823. Is it not rather strange to you that, besides Mr. Lassetter, who, as you have pointed out, is in a better position than the majority of business people, a number of persons should have signed a petition in favour of the proposed tramway? I must decline to give an opinion unless I see the names of the petitioners and know their places of business.

1824. What stand do you take, as Mayor of the city, against the project before the Committee, when you have not heard the citizens' opinion upon it? As far as I am individually concerned, I was asked if I would attend here. I received a notice requesting me to attend on the Tuesday, I think, and on the following Thursday I held a finance meeting. Before that meeting closed I announced to the aldermen that I had received the notice, and I asked them if they had any directions to give me. They said that they were satisfied to leave the matter in my hands, because they were all opposed to the project. One of the daily papers then went out of the way to ridicule me, because of my attitude in regard to the matter, and now you ask me do I come here in my private capacity or as Mayor of the city, and if, as Mayor of the city, have I ascertained the opinion of the citizens in regard to the line. Then you ask me to give an opinion upon a matter about which I can know nothing.

1825. Has any public meeting been held in condemnation of the scheme? I have not attended any.

1826. If there were any such meeting, you would, in all probability, be asked to preside at it? The probability is that I should; but in explanation of the fact that there has been no public meeting, I might say that there seems to be a desire to rush this matter through during the Easter holidays, when the public mind has been engaged, in a manner that it never has been before, in a round of pleasure. This thing is dropped like a bombshell upon the people, so that they have had no time to do anything.

1827. *Vice-Chairman.*] I think you are in error. The inquiry commenced some time ago, and it is proceeding in its regular course. Advertisements have been inserted in the newspapers, asking persons interested to attend here as witnesses, and in no case has evidence been refused? The sittings of the Committee have been carried on during a long series of holidays, when, I say, the public mind has been filled with other things; but I do not wish to impute motives to the Committee generally or to its individual members.

1828. *Mr. Fegan.*] Has not the time come when some better means of transit should be given to the people than the steam tramways which we have now? I am quite convinced that we require a better service than the present steam tramways.

1829.

I. E. Ives, Esq. 10 April, 1896.

1829. According to the evidence of scientific men electric tramways are better than any other system that has yet been discovered;—do you not think that Sydney should be as well off as other cities in regard to modes of transit? I quite agree with that view, and I think that we are a long way behind now; but if you want to bring Sydney ahead you must extend the railway from Redfern to Circular Quay. It costs me as much to travel from Redfern to my office as it does to travel 14 miles on the railways.
1830. You think that the construction of the proposed tramway will keep back the extension of the railway into Sydney? A tramway can never answer the same purpose as a railway. A railway into the city would be of advantage, not only to the people living about Sydney, but also to people in such places as Bourke, Hay, and Deniliquin.
1831. Do not hundreds of people travel down George-street by the 'buses? I think there must be thousands every week.
1832. Would not an electric tramway provide for that traffic, and be better and quicker than the 'bus service? I have no doubt that a two-minutes tram service would carry any ordinary passenger traffic.
1833. Do you not think that there would be plenty of room for vehicular traffic in a street 33 feet wide? But you propose to construct a tramway which will leave only 8 feet 6 inches of roadway on each side.
1834. Can you suggest anything better? I understand that, according to the best authorities, 32 feet is the narrowest width allowed for a double track of tramways. That being the opinion of experts, it would be useless for me to oppose it.
1835. Trams are working not only in small continental cities, but in the great city of New York, where the roadway is narrower than that? Yes.
1836. Do you not think that if the proposed tramway were constructed the vehicular traffic would be lessened? It would depend upon the fares charged upon the tramway.
1837. I do not think that the fares charged will be higher than those charged at present? Well, at the present time a man can ride from the University to Miller's Point for 2d.
1838. Would you get into a 'bus if there were one of these trams passing? Well, with the 'bus you would get 50 per cent more in point of distance for 2d. than you would get with the tramway.
1839. Business men do not look at a penny when they are in a hurry, and an electric tram would go much quicker than the 'bus? No doubt if a man were in a hurry he would take the speediest conveyance going towards his destination. I am fully convinced that since the omnibus fares were reduced more people travel in the 'buses and fewer cabs are used.
1840. Do you not think that David Jones & Co. are in an extremely good position by reason of their having Barrack-street into which to unload their merchandise? They have one of the best positions in the city.
1841. Do you think that a tramway in George-street would interfere with their business;—would there not still be plenty of carriage room in Barrack-street? Well, there is another view which perhaps Mr. Newman in giving evidence did not take into consideration. Immediately opposite David Jones & Co. there is the railway receiving depot, and sometimes you will find six or eight or ten vans waiting there, and the street so blocked as far as the Commercial Bank that you cannot get through with a cab or anything else. This is especially the case in those portions of the day when David Jones & Co. are very busy, and there are a great number of carriages outside their doors.
1842. You think that a tramway in George-street would hinder the natural course of business there? I think it would interfere very materially with all the merchants along the line of route.
1843. Do you not think that a good tramway would popularise George-street more than anything else? It would be no use for George-street to be popularised if people could not do their business there. You might make the tramway popular as the Manly boats have been made popular by the reduction of fares to 3d., but if the trams are run to the detriment of firms like Orme, Keigwin & Co., nothing is gained. If business has to give way to passenger traffic business men must move into other streets.
1844. But you admit that greater facilities for travelling should be given to the citizens than those they now possess? I have not heard of any complaints about the present arrangements, except as to the tax it is to be landed at Redfern, and have to go such a long way to get into the town. Private enterprise, however, has done as much as it can to remove the difficulty. The streets are full of licensed vehicles, and you can get from one door to the other for 2d.
1845. But compare 2d. with the fare of 1½d. on the tramway? But if for 2d. you get 2d. worth instead of 1½d worth, where is the difference.
1846. Do you not think that the Commissioners should do something to improve the present arrangements? I should be very pleased if they would extend the railway into Sydney.
1847. Do you know what the cost of the proposed tramway would be as against the cost of the proposed city railway as at one time estimated? At the present time we do not frame estimates upon estimates made a few years back.
1848. Have you any idea what a city railway would cost under present circumstances? I have not gone into the figures, but I would be prepared to give a sketch map of a railway which would tap the whole of the traffic and serve the wharves, without going through the heart of the city as was proposed years ago, with the necessity of resuming most expensive land.
1849. *Mr. Hassall.*] Is it your opinion that some steps should be taken to give the City Council power to regulate the street traffic? I am of opinion that that power should be in the hands of the City Council.
1850. More particularly since it is in contemplation to construct a tramway along one of the principal streets of the city? That is undoubtedly an additional reason why the Council should have full control of the street traffic.
1851. Do you think it would be dangerous to allow heavy traffic, light traffic, and all kinds of vehicles, to traverse a street in which tramways were running? I think so. It must be remembered that, although in going along the street the traffic would have to keep to its own side of the road, vehicles would occasionally have to cross the street, and in doing that they would have to pass in front of the trams.
1852. You think that the construction of a double line of tramway in the principal artery of the city would cause public inconvenience? I do; under the rules by which the traffic of the city is now governed.
1853. If the power to regulate the traffic was vested in the Council, would that remove many objections? No doubt it would. At the present time I consider it a disgrace that heavy traffic should be allowed to go along George-street. At the present time, however, we have no power to prevent a man from carrying a 40-feet ladder along that street.

I. E. Ives, Esq. 10 April, 1896.

1854. You think that it is absolutely imperative that the right to control the traffic should be vested in the City Council? It is necessary that the right to control the traffic should be given to us before any tramway is made.
1855. I understood from something you said earlier in your examination that the public have had practically no time to consider this matter fully? Well, personally, I have not had the opportunity of consulting the City Surveyor, or to see the plans.
1856. Do you think it desirable that an expression of public opinion should be obtained before this matter is finally decided;—would you desire to be allowed to give further evidence after obtaining an expression of public opinion, or an expression of the opinion of the members of the Council? I presume that I can get a copy of the evidence given to-day, and see my brother aldermen upon the matter. Do you wish that I should call a public meeting myself to obtain an expression of opinion from the citizens.
1857. I understand that the Council are perfectly satisfied that you should appear here to-day as their representative, and that your opinion is practically the opinion of the Council? That is so.
1858. I judge that you are of opinion that Mr. Lassetter, in giving evidence here, was actuated more by selfish motives than by anything else? I have not seen his evidence. It caught my eye in the newspaper, and I used his name to show how the tramways might be of advantage to him, but not to other people, he being very favourably situated.
1859. Is there any back lane from Park-street to Bridge-street on the eastern side of George-street? None that I know. There are gateways which serve the purposes of two or three shops on each side of them.
1860. Consequently, all the heavy goods for the shops along that part of George-street have to be landed on the pavement, and taken through the front door? That is so. Harris and Ackman have a back lane from George-street on the northern side of the Royal Hotel.
1861. Their business frontage is in Pitt-street? Yes. But their heavy traffic comes down George-street. Farmer & Co. too take in all their goods at the George-street entrance, with the exception of a few things that go in at Market-street. Further down you find a few lanes, like Abercrombie-lane and Dean's-place, the buildings in which are approached from George-street principally.
1862. So that, in your opinion, a double line of tramway down George-street would interfere with business operations there, and to a certain extent be a danger to the public? Yes.
1863. Are there any back entrances from Market to Barrack Streets on the western side of George-street? You have Stedman's gateway opposite the Royal Hotel. It feeds the frontages to George-street. Then I do not think there is anything until you get down below George Robertson & Co., where you have two gateways. Between Wynyard-street and Margaret-street there is Wynyard-lane running parallel with George-street, and then Dynon, and Sandy have a back entrance off Margaret-street Below Jamieson-street you have a 10-feet lane serving the Bank, and going right down to Peate and Harcourt's.
1864. Has not the opening of Moore-street increased the traffic in Barrack-street? I have not noticed it.
1865. Is not the traffic exceptionally heavy at the crossing from Barrack-street to Moore-street? I cannot see that it is heavier than at other crossings, but I have not paid special attention to the matter.
1866. Would not a city railway and the proposed tramway be two different things;—the tram traffic would consist more of the local traffic along George-street, while the train traffic would be composed of passengers who are at the present time landed at Redfern? Yes. And the train, if extended into the city, would reduce the earnings of the tramways.
1867. Do you think that a city railway and the proposed tramway are both necessary for the convenience of the public at the present time? I consider that a city railway would not only serve the people about Sydney but the whole Colony.
1868. In the event of the railway being extended into Sydney the Commissioners would increase the fares. Possibly they would. A single return first-class ticket to where I live costs 2s. 2d., whereas I have to pay 2s. for a cab to take me from Redfern to my office.
1869. Would not the proposed tramway, if constructed, suit you? It would not go near enough to my office. I should still have a quarter of a mile to walk. The omnibus drops me at my door if I care to take it.
1870. Would the proposed tramway serve people living or doing business in Clarence-street;—what area do you think it would serve? It is impossible to answer that question. You have boats coming in on that side from the various water suburbs, whose passengers would not all use the tram, though some of them might.
1871. Do you think the people resident in the western water suburbs would take the tram along Harris-street and down George-street in order to get to York or Clarence-streets? The people living in the western water suburbs do not land at Pyrmont. They land at the foot of Erskine-street, Lime-street, or King-street.
1872. I am not speaking of the Parramatta River traffic; I am speaking of the residents of Pyrmont, who have now a penny ferry. Do you think they would take the tram and come round by Harris and George Streets? I think it would be very doubtful. Those persons can now get right into the heart of the city in two or three minutes; but it would take them a long while to get round in the tram.
1873. You think no great reliance can be placed upon evidence stating that those people would use the tramways? I certainly am not of the opinion that they would use it.
1874. Do you not think that it would be better, instead of taking the tramway along Harris-street, to turn it up Regent-street, and serve that densely-populated portion of the city which is not too well off for means of communication now? Well, the present steam tramway does not tap that district at all. The Botany tram is of no service to the residents of Alexandria, Golden Grove, Chippendale, and so on.
1875. As a business speculation, do you think it would be better to turn the tram up Regent-street? I think you would get a great deal of traffic if you did.
1876. Have you any idea as to the number of people coming into town from that direction, as compared with the number of people coming in along Harris-street? A great number of people come in along Regent-street. People come in that way from Botany, Alexandria, Waterloo, Darlington, and the whole district between Pitt-street, Redfern, and the Newtown Road.
1877. Do you think that a tramway going in that direction would be better than a tramway along Harris-street? Judging from the population of the district it would serve, I think it would be better.
1878. Is not the present 'bus service of the city pretty satisfactory? I think there are more vehicles than are actually required, especially is that so with regard to cabs. 1879.

1879. People have every facility for getting backwards and forwards to their places of business? I have not heard any grumbling.
1880. I presume that it has cost the Council a good deal to put the street into order for wheeled traffic? Yes; a considerable sum.
1881. In the event of the roadway being interfered with by the laying down of a tramline, would the Council be put to expense, or would it all be defrayed by the tramway authorities? The tramway people would have to pay for the whole cost of the line, but considerable expense would be entailed upon the Council.
1882. You think that the present requirements of the city are fairly met, and that at present there is no necessity for constructing this tram? Those are my opinions.
1883. *Mr. Roberts.*] Have you made yourself familiar with the plans of the proposed tramway? Nothing has ever been submitted to me by this Committee. I have seen none of the evidence that has been taken, except what has appeared in the newspapers.
1884. Have you made any application to be allowed to inspect the plans or read any of the expert evidence that has been given in open court at this inquiry? I have not.
1885. Do you not think that if opportunity were afforded you to look into the matter more fully you might moderate your opinion with regard to the proposed line? I have not the remotest idea as to what evidence you have to submit to me that would alter my opinion. I think it would have been better if I had had the evidence first.
1886. It seems to me that it would be as well if you were in a position to make yourself acquainted with the question about which we want you to give evidence? I explained earlier in the afternoon that on account of other pressing duties I had not been able to give attention to this question. It was only at the urgent request of your Secretary yesterday that I consented to come here this afternoon, and I have public duties awaiting me as soon as you have finished with me.
1887. In general terms, you are not favourable to the construction of any tramway in George-street? My long knowledge of the city and of the business conducted in that street compels me to say yes.
1888. You give that answer without any knowledge of what it is proposed to do? Yes; beyond the bare fact that it is proposed to run a double line of tramway from the Circular Quay to Redfern through George-street.
1889. Remembering that electric tramways are being worked in much more populous cities than Sydney, and in streets as narrow as George-street, do you not think it would be a wise thing to let the citizens of Sydney have the advantage of them? If you can show me that those cities are in any respect, as far as situation is concerned, similar to Sydney, I will say yes. Sydney is built upon one or two ridges, and the bulk of the traffic is from or to the water. If the city had been laid out on a bowling green it would have been different. I think you will find that none of the cities to which you refer compare in point of situation to Sydney. They have not the same steep inclines and contracted space as Sydney. Literally, we have only two streets, George and Pitt Streets, running through the middle of the city.
1890. You are very much in favour of the construction of the city railway? Yes.
1891. Do you not think that there is room not only for a city railway, but for an electric tram as well? Well, in London, although they have underground railways, with trains leaving every two minutes, the number of cabs and omnibuses in the streets has not been diminished. The greater the facilities provided the more the use.
1892. Do you not think that a two-minutes tram service in George-street would ultimately do away with nearly all the 'bus traffic there? Probably it would, or the 'buses would have to be constructed on a smaller scale.
1893. Is it not a fact that in Melbourne the omnibus traffic has almost wholly disappeared? I have not been in Melbourne lately; but you cannot compare that city with Sydney. There are no steep gradients and hills there, and the main business part of the city is not hemmed in by the water.
1894. Is it not a fact that since they have had an efficient tram service there the omnibuses have almost entirely disappeared? I believe that to a very large extent the 'buses have been removed from the heart of the city because of the trams.
1895. I understood you to say that your two objections to the proposal before us are that the tramway would interfere with the unloading of drays in George-street and would prevent the construction of a city railway? I consider that the tramways would interfere most materially with the conduct of business in the city.
1896. Have any complaints reached you in regard to the interference with business of the cable tram which is running in a street as narrow and as busy as George-street? Various complaints have been made to the Council in reference to the King-street tramway, especially by the people west of George-street.
1897. Have these complaints taken the form of a public protest by the citizens? The complaints have been forwarded by the Council to the Tramway Department, with a view to having the evil remedied. I think they have appeared in the public press on two or three occasions.
1898. Has any public petition been presented to the Council complaining of annoyance to business people caused by this tram? No public petition on the subject has been presented.
1899. What is the nature of the complaints that have reached you? Some of them have been in connection with danger to life and limb; there have been general complaints arising from obstruction of the street and interruption of traffic.
1900. I understood you to say that in objecting to the proposed tramway you were echoing the opinion of every alderman in the Sydney Municipal Council? That is so.
1901. Has any public discussion taken place in the Council in regard to the proposed line? Nothing except that which I mentioned earlier in my examination.
1902. Are the objections of the aldermen to the proposal based on the same ground as your individual objections, or have they other grounds of objection? The aldermen, individually and collectively, are opposed on broad principles to the construction of the proposed line, but I would not undertake to give the exact opinion of any individual alderman.
1903. Have the aldermen made themselves thoroughly familiar with the proposed scheme? Some of them have. Some of them appear to be more familiar with it than I am.
1904. Do you know whether they have seen the plans or asked for any information as to the details of the scheme? I do not.

I. E. Ives, Esq. 10 April, 1896.

1905. *Mr. Wright.*] I suppose you are aware that the principal streets and every suburb of Melbourne have tramways? Yes.
1906. And are you aware that there are lines of 'buses coming from the Glebe, Newtown, Camperdown, St. Peter's, Forest Lodge, Golden Grove, Botany, Redfern, Strawberry Hills, Balmain, Drummoyne, Ryde, Petersham, and Enmore, all of which land their passengers in George-street, and nearly all of which come through George-street? Yes.
1097. Do you think that the construction of the proposed line would mean the discontinuance of all those 'buses? Certainly not. I have already pointed out that a man would not walk from the Glebe to Redfern to take this tram to the city when he could ride the whole way in a 'bus for 2d.
1908. So that all the traffic that the trams would take from George-street would be the railway 'bus and the Pyrmont 'bus traffic? Yes. If all the people from the railway and from Pyrmont took the tram.
1909. But the rest of the 'bus traffic will continue? Yes.
1910. And you think that the traffic in George-street will be largely congested if the trams run there every two minutes, and in busy parts of the day every thirty seconds? I feel convinced that the trams would obstruct the other traffic, and prevent people from transacting their business in George-street.
1911. And you think that if the tramway is made a great number of business people will have to abandon their premises in George-street, and go elsewhere? I think that it will be utterly impossible for the people in George-street to conduct their business as they do now, and that the value of the business premises there will deteriorate very largely in consequence.
1912. You have pointed out that Sydney is the only city in the world where the great volume of traffic is confined to one street? Yes; Sydney is built upon a ridge, and the only street along that ridge is George-street.
1913. George-street is the great artery for all pleasure, shopping, and heavy traffic? Yes; that street takes the bulk of the traffic.
1914. You know of no city which is in a similar position? I do not remember any.
1915. You are familiar with Melbourne? I am.
1916. There is no street in Melbourne which will compare with George-street? Certainly not, considering the amount of traffic in George-street. The Melbourne streets are all very much wider than our streets, and since Melbourne is built on a plain, the facilities for traffic there are much greater
1917. Do you know any street in Melbourne that carries one-third of the traffic carried by George-street? I do not. I have not seen anything like the traffic in the Melbourne streets that I have seen in George-street.
1918. To the best of your belief you are now expressing the opinions of the citizens of Sydney? That is what I am endeavouring to do.
1919. You did not come here to express your own opinions in antagonism to those of the people whom you represent? Not in the slightest degree. I came here in my public capacity.
1920. You were in Europe some short time ago? Eleven years ago.
1921. Then you know nothing about modern tramway arrangements? I have seen nothing very recent.
1922. Were you in Glasgow? Yes; and saw the tramway service there.
1923. What are the streets of Glasgow like? Some of them are very narrow, and the traffic is very heavy.
1924. There is a great amount of 'bus traffic there? Yes.
1925. You consider that the citizens of Sydney are fairly well served at present, and that if any additional means of communication are required a railway should be constructed instead of a tramway? Those are my opinions.
1926. *Mr. Black.*] Do you not think that the fact that, although the Hobson's Bay Station, in Melbourne, is only three minutes walk from Collins-street, and about five minutes walk from Bourke-street, and the Melbourne tramway system is a very complete one, invalidates your conclusion that a city railway in Sydney would render a tram service unnecessary? I say that the Melbourne railway is in no sense a city railway.
1927. Most of the Melbourne suburbs are placed in direct communication with the city by railway, and yet there are trams running to the city from most of those suburbs? The people coming by the trams live in suburbs to which there is no railway.
1928. Not at all; for instance, there is a tramway to St. Kilda and a railway to St. Kilda, a tramway to Hawthorne and a railway to Hawthorne;—supposing our railway conveyed passengers to within two minutes walk of the G.P.O., do you not think that there would still be a great amount of tram traffic? The trams are feeders to the railway, as omnibuses were before trams were invented.
1929. That is no answer to my question;—you object to the construction of a tramway in George-street because you think that the traffic there is already too much congested;—do you not think that one great reason for that congestion of traffic is the running of so many 'buses? The population of the city demands the employment of 'buses as a means of transit.
1930. Does not the bulk of the traffic in George-street consist of 'bus traffic? I do not feel disposed to answer that question.
1931. Is it not a fact that in George-street you often see three or four 'buses running abreast and trying to pass each other? I have nothing to do with the street traffic.
1932. Do you not think that a tram traffic which would be confined to a particular course in the street would be better than a traffic taking its own course and steering all about the street? Well, of course, the electric tram would keep its own course; I do not suppose it will be crotchety, and jump off the rails.
1933. Do you not think that other vehicles would find it more easy to avoid collision with traffic of that kind than they do under the present system to avoid collision with one another when every 'bus-driver has almost the whole width of the street to drive upon? Collisions could hardly be fewer than they are now. It is very rarely that you hear of a collision of a serious nature unless when a cable tram runs into a steam tram.
1934. I saw three serious collisions mentioned in the newspaper on one day recently; you appear to imagine that the construction of a tramway in George-street would interfere with the unloading of vehicles there;—is it usual where there is much traffic to back vehicles into the pavement and unload from the rear? Well, you cannot pass up George-street at any hour of the day without seeing it done.
1935. Do you not think that the practice is a dangerous one? There is no doubt that there is a very great amount of danger in it, but the thing is done all the same.

I. E. Ives, Esq. 10 April, 1896.

1936. Are there many business places of importance in George-street—I do not allude to cigar-shops, and little peddling fan-tan places like you see in Lower George-street—which have not gateways or side entrances? Fully two-thirds of the places there have no side entrance.
1937. You stated that the 'buses were more cleanly than the trams—I suppose you alluded to the steam-trams? Yes.
1938. Do you think that the 'buses would be more cleanly than the cable or electric tram? There is a good deal to be said about the matter one way and another.
1939. Do not a large proportion of the travellers by 'bus from the Circular Quay get out before they come to the Railway Station? That may be so between 11 o'clock and 2, but during the rest of the day most people are through passengers.
1940. But in the middle of the day most people are travelling from one point in George-street to another point in George-street? I could not say.
1941. At all events there is a large traffic of that character which the proposed tramway would serve? No doubt the trams would serve a large part of the city traffic, but no one would take the electric tramway to Redfern, and then proceed by 'bus to Newtown or the Glebe.
1942. May we not conjecture that the low 'bus fares now prevailing are due to the competition of the trams? I think that the reduction in 'bus fares came about because the proprietors found that they could not get 3d., and so they took 2d., feed being very cheap at the time.
1943. Is it not a fact that before the trams ran the 'bus fares from Waverley, Randwick, and Woollahra were 1s. and 6d.? Thirty-five years ago I paid 1s. to take the 'bus from Redfern to Argyle Cut, but I have not paid that price lately.
1944. You appear to think that the running of these trams will increase the danger to life and limb, but does not every additional vehicle that runs increase that danger. We could scarcely eradicate the danger unless we prohibited the traffic altogether? That is a view generally accepted.
1945. You appear to think that it would be dangerous to have lorries crossing the tramline? That was a danger that occurred to me at the moment.
1946. I suppose you know that the trams will be provided with heavy brakes, and that they will be bound to respect the street traffic? I presume that they will have the best appliances that the ingenuity of man can provide.
1947. Does the rattling of the 'buses in George-street interfere with the meetings of the Council at the Town Hall? No; we never hear it.
1948. You appear to consider that the Committee have somewhat slighted you in connection with this matter? I did not say that. I said that I was asked to give evidence when I had no time or opportunity to collect data. I have had no intimation as to the topics upon which you intended to question me.
1949. Do you not think that if you had told the Committee that you wished to have your examination postponed they would have been glad to accede to your request? I think I have already said that I did point out that I had no time.
1950. Of course you have had no opportunity of reading the evidence of Messrs. Holdsworth, Macpherson, & Co.'s representative? I have not.
1951. That gentleman, after expressing a desire that the tramway should be constructed, stated that very few business-houses in George-street were without a back entrance, and that the running of the trams would minimise the danger that now exists? Holdsworth, Macpherson, & Co. do all their heavy work in Hamilton-lane. George-street is only used by their customers.
1952. I understood you to say that some of the petitioners in favour of the construction of the tramway might be interested parties, because of the position of their business premises;—is that correct? I do not think I made use of that expression. I said that I had not seen the names of the petitioners.
1953. You said that until you saw their names and knew where their business premises were you could not know their reasons? Yes. But I did not say that they were actuated by interested motives.
1954. Would it not be fair to infer that those opposed to the construction of the tramway are also actuated by interested motives? I was asked to give an opinion about a petition which I had not seen, and of which I heard nothing, and what I said was merely an explanation.
1955. In view of the great possibilities of this city, and its yearly increase of traffic, do you not think that not only a city railway but a tramway in George-street or Pitt-street, or both streets, would be necessary to cope with what I might call the intermediate traffic of the place? There is always an intermediate traffic. The railway creates a traffic of its own.
1956. Is there not a pick-up traffic which could not be served by the railway, and is not that traffic growing to such dimensions that within a very brief period it will be necessary to make further provision for it? I think that something should have been done before now for the regulation of the street traffic. I think that, by proper regulation, George and Pitt Streets could be relieved of more than half the vehicles now travelling along them, and that would leave a clear and unobstructed thoroughfare for what was left.
1957. You are of opinion that any arrangement that would lessen the number of vehicles in George-street would be a public benefit? I think that if we had power to regulate the traffic it would be as beneficial to the city as the construction of the proposed tramway.
1958. *Mr. Trickett.*] When the King-street tramway was under the consideration of this Committee, Mr. Burdekin, the then Mayor of Sydney, was examined, and in reply to the question, "Has the proposed tramway along King-street to Ocean-street been discussed officially in the Municipal Council?" he said that the subject of tramways generally had been discussed, and that the Council were of opinion that, inasmuch as the roads were maintained at the expense of the citizens, consideration should be given to this fact when a proposal of the kind then before the Committee was under investigation;—has this subject come under the consideration of the Council since? The matter has been discussed at the Town Hall, though not at a meeting of the Council, and the aldermen and myself are of opinion that if the Government or any private persons use the streets in the way proposed the City Council should obtain revenue from them.
1959. Was that discussion sufficiently general for you to state that that is an objection which you now urge? The same opinion now prevails in the Council as prevailed when the King-street tramway was under investigation.
1960. Have the Council made any representation to the Government on this subject? Not that I am aware of.

I. E. Ives, Esq. 10 April, 1896.

1961. Is it intended to make any? It is intended to take up the whole matter of the better conduct of traffic in the streets, and of the control of the streets generally by the Council, both as concerns traffic, and as concerns water and hydraulic mains, and so forth. The matter has not been on the minute-book, but it will be there. It is under consideration by the aldermen, and will come before the public in a short space of time.

1962. Is it likely to be dealt with shortly, so that any determination may come before the Committee? I do not think that any definite decision will be come to during the present inquiry.

1963. Do you not think that the question is one which should be brought prominently before the aldermen? Yes; it is a very important question.

1964. *Vice-Chairman.*] Are you aware that for some years past the Railway Commissioners have been calling attention to the congestion of traffic in Elizabeth-street, and to the necessity of providing other means than those at present existing to move the population? The tram traffic has taken almost complete control of Elizabeth-street. There is very little other traffic in Elizabeth-street.

1965. Are you able to make any suggestions which would carry out the views of the Commissioners, and be acceptable to your Council? Not at the present moment.

1966. You object to a tramway in George-street—can you suggest any other street in which to construct a tramway to relieve the congestion in Elizabeth-street? The congestion of traffic in Elizabeth-street is caused by the traffic coming from the eastern suburbs.

1967. Do you not think the public convenience will be better consulted by the construction of a tramway down George-street than by allowing the congestion of traffic in Elizabeth-street to remain? To my mind the congestion of traffic in Elizabeth-street is of no moment to the public, because Elizabeth-street is out of the city proper. But when you speak of a tramway through the heart of the city, that is a very different matter. I take it that if the traffic in Elizabeth-street is congested now, and you make a tramway down George-street, the traffic there will shortly be congested, and that would be a very serious matter.

1968. Well, must not some provision be made to meet the public convenience by providing better means of transit along some of the streets? The public have not demanded better means of transit.

1969. Must we not take into consideration the necessity of providing some better means? Has there been any demand for it by the public. I think that if the Council were armed with authority to regulate the street traffic the public would be well served by the present 'bus service.

1970. Well, can you make any suggestion whereby the Commissioners could relieve the congestion of traffic in Elizabeth-street? I could not do so on the spur of the moment, as I am not acquainted with the facts of the situation.

TUESDAY, 14 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	George Black, Esq.

Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and along Harris-street to the intersection of John-street.

Philip Billingsley Walker, Esq., M.I.C.E., M.I.E.E., Secretary to the Electric Telegraph Department, sworn, and further examined:—

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 14 April, 1896.

1971. *Mr. Humphery.*] When last under examination you were to prepare a statement in reference to the subject of our investigation? Yes. I have prepared such a statement, and it is as follows:—

In dealing with the question of the proposed electric tram-line scheme intended to traverse George and Harris Streets, I have looked over the plans, and it seems to me to be a very good scheme, based on the latest practices for the construction of electric trams adopted in England and America, and to a limited extent on the Continent.

It is necessary in considering this scheme to provide for the protection of the Postmaster-General's telegraph and telephone wires throughout the city, and I therefore feel that it is my duty to lay before the Committee such technical points upon this matter as will prevent future trouble in regard to the Postmaster-General's wires.

It is well known to all electrical engineers that electric traction wires are a great enemy to the telephone, because the one is worked by an electrical energy of hundreds of amperes of current, whereas the other is affected by less than a milliampere, thus showing clearly that the greater power must necessarily swallow up the weaker power, when brought into juxtaposition in the working out of such a system. Therefore it involves a matter for grave consideration as to the best course to adopt in regard to the future arrangements of the telegraph and telephone wires throughout the city.

There is no doubt in my mind that if the proposed electric tram scheme is carried out, it will entail a complete alteration of the whole telephone system now existing, comprising some 2,000 miles of wire throughout the city, which would mean an additional heavy expenditure to the Government, as it would necessitate the placing of the whole telephone system under a metallic circuit, costing somewhere about £175,000 on an overhead scheme, and if this had to be extended to the suburbs it would cost about £250,000. To put it underground, under a complete subway system, would cost half a million of money.

There are 1,553 circuits (partly in cables and partly on bare wires) along George-street and Harris-street, and 2,058 subscribers on this route, that would be affected by the action of the tram along George-street, and not only would these wires suffer from the working of the tram, but the whole telephone system more or less throughout the city would also suffer, because in passing up George-street, at the junction of each of the cross streets, the wires on the poles in the cross streets would also be affected by the tram, owing to the poles in these streets carrying wires which run into George-street, and this would continue to other wires in bye-streets throughout the city, so that any disturbance propagated in the wires in George-street would be distributed from wire to wire in all parts of the city, although not actually on the route of the tram. I have proved this by practical experience in connection with the working of the North Sydney electric tram, where I had occasion to use a piece of wire erected at Middle Head sometime last year. This wire was erected upon poles carrying other wires in the same direction as the Military Road electric tram, and alongside the electric tram, and the interference caused by this piece of wire, a few hundred yards in length, at Middle Head, by induction, was propagated to such an extent that it was continued on past the tram, causing the speech at times to be so bad that it was impossible to work the telephone. In addition to this, the action of the tram on these wires was, by induction, extended through the cable across the harbour to South Head, affecting the telephone on that side of the harbour, where the motion of the tram could be distinctly detected from the vibration through the telephone, thus showing how widely the electrical energy required for the working of the tram overpowers the telephone.

The

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 14 April, 1896.

The action of an electric tram on the telephone causes a constant humming sound, and frequently when the tram starts, or any disconnection takes place in the trunk leading to the feeder wire, a shrill sound, like a syren in the distance, is heard through the telephone, and which so affects it that the voice cannot penetrate through it sufficiently to make a person understand when using the telephone. There are numerous instances in the attached papers [*see Appendix* A] relating to complaints from residents of North Sydney, Chowder Bay, and Manly Beach, showing the trouble the North Sydney tram has been to the subscribers and the public, and the Department has had to go to considerable expense in removing a number of poles on to the opposite side of the street, with a view of modifying the difficulty; but, notwithstanding this fact, there still exists a deal of trouble in connection with the working of the telephone system along the Military Road and to Manly Beach.

I understand that the Committee has been informed that no trouble exists in connection with the working of this tram line, but I think that a perusal of the correspondence attached, from persons who are constantly using the telephone, will be sufficient answer to any such statement.

I would point out to the Committee that on opening up the telephone line to Manly Beach so much trouble was caused by the electric tramway that it became necessary to use a copper metallic trunk line, with translators, for a considerable time, in order to overcome the action of the tramway upon the telephone wires; but after alterations had been made, and the wire had been removed to the other side of the road at the Mosman's end of the line, the working slightly improved for a short time. It afterwards became as bad as ever again, which I attribute mainly to some alteration the Railway Department made in the type of dynamo used at the power-house at North Sydney, and the Railway Department have requested us to communicate with them whenever any difficulty arises in connection with the North Sydney telephone system, but, although the new power introduced seemed at first to modify the difficulty, ultimately the troubles proved as great as formerly.

We have managed to work single-wire circuits for some time, but the effects of the tram are always felt more or less and we have on several occasions called the attention of the railway officials to it, according to the arrangement made with them. In the case of Mr. Halstead's line near the end of the terminus of the tram-line at Mosman's Bay. We found it impossible to work this with a single wire, and, consequently, the Department was put to the expense of erecting a return wire, and the Chowder Bay Hotel line has also caused a great deal of trouble, frequently becoming unworkable, and producing complaints from the proprietor of the hotel. We shall have to put this under a metallic circuit ultimately, as well as the Quarantine, Military, and other lines in this direction, so that the Postmaster-General's Department will thus be saddled with a heavy expenditure in connection with this electric tram system, that properly should be shared by the Commissioners for Railways.

In my opinion there is really only one effective way of overcoming this difficulty, and that is by having a complete metallic circuit throughout the city and suburbs, (*i.e.*, go and return wire), or a double wire for the electric tram, so that the commercial and general public may not suffer any inconvenience from the action of the electric tram-line. It is, however, a question of great moment what this work will cost, and also as to which Department of the Government should bear the expenditure, but that of course is a matter for the Postmaster-General to deal with.

I have attached extracts from evidence of authorities of electrical engineers in other parts of the world [*see Appendices* B and C], and by these it will be seen that the opinion which I have expressed is fully supported by them, and I wish to say that my only reason for making these remarks is solely to prevent any future trouble in connection with the Postmaster-General's wires, as it is evident that if the proposed scheme of tramway is adopted it will be necessary to make provisions for a complete metallic circuit for the telephone systems throughout the city and suburbs, as the only remedy to get rid of the action of the tramway upon the telephone wires.

There is another point which perhaps it is well the Committee should have information upon. I refer to the practice of attempting to work two telephone systems on the one switchboard in the Central Exchange (*i.e.*, single wire and metallic circuit), which, I consider, practically impossible. To attempt it would simply be trying an experiment that would lead to much greater expenditure hereafter, and this is borne out by the greatest authorities in America and England; but, even if it could be done, the interference, in my opinion, would be so great that it would ultimately force the entire use of a metallic circuit, and I would not feel justified in recommending this when we have such a satisfactory system now working on the single wire and earth return circuit.

I am acquainted with, and have seen the principal telephone systems working in America, France, Germany, Austria, and the United Kingdom, as well as all the exchanges in Australasia and New Zealand, and in most countries (especially America) where electrical traction wires have been introduced, and the telephone authorities have been compelled to adopt metallic circuits. This has led to some trouble between the telephone and traction authorities, which in most cases in America, where it has principally occurred, resulted in amicable arrangements being arrived at for the contending parties to share the expense, though in the United Kingdom it has led to litigation, compelling alterations to be made in order to meet the circumstances. In this Colony of course the telegraph and telephone systems, as well as the railways, are under the Government; therefore, it becomes a question of expediency as to incurring the extra expense that would be involved in carrying out the alterations rendered necessary for the protection of the telephone system if the electric tram is introduced.

P. B. WALKER, M.I.C.E., M.I.E.E.,
Secretary of Telegraph Service.

APPENDIX A.

Dear Mr. Kidd, The Vicarage, Neutral Bay, 12 February, 1894.

You will doubtless remember meeting me at "The Rangers" on the occasion of Miss Millett's wedding. Our mutual friend, Mr. W. J. Lyne, told me yesterday that you might be able to remedy what is really a great inconvenience to me, and to all who have telephones fixed in our houses at Neutral Bay. The noise caused by the electric tram is so great that our telephones are almost useless. Mr. Vernon complains, too, of this grave defect. Can our wires be fixed on the other side of the Military Road? Or (far better) can they be fixed so as to establish communication *via* the foot of the Bay, adjoining the reclaimed land at Neutral Harbour?

I shall be glad to point out to any official this defect, and I shall be most grateful to you for a favourable reply.

Yours, &c.,
G. NORTH ASH.

Dear Sir, Sydney, 8 May, 1894.

I have the honor to again bring to your attention the defects in the electric current on the North Sydney telephone wires on the Military Road district.

Evidently, the escape of electric current from the tram cable into the telephone wires is going on to such an extent that the telephone system is very defective, and at times quite useless.

Is it possible that anything short of removing the wires to elsewhere can remedy or lessen the difficulty?

Apologising for troubling you in this matter.

I am, &c.,
W. L. VERNON.

To the Deputy Postmaster-General.

My dear Sir, The Vicarage, Neutral Bay, 22 May, 1894.

May I call your attention to the great difficulty which we experience in hearing messages through the medium of our telephone.

I believe that the disturbance is caused chiefly by induction and by leakage from other circuits. I cannot help thinking that the only thorough method of obviating this intolerable nuisance is by making the telephone circuit a metallic one, *i.e.*, by using a wire as a return in lieu of the earth. This would not necessitate a return wire for each circuit, as one return wire of copper will suffice for several lines running in the same direction.

This method was successfully adopted in London some time ago.

May I call your immediate attention to the nuisance of which I have written.

Yours, &c.,
G. NORTH ASH.

The Hon. J. Kidd, M.P.

Dear

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 14 April, 1896.

Dear Sir, "Rockley," Manly, and 81 Pitt-street, 25 April, 1895.

Knowing how more than anxious you are to do your utmost to give us a complete and useful telephone service, I, with every confidence, entreat you to have something done whereby we can make ourselves heard between Manly and Sydney, for at the present time all we can hear is the noise of the electric tram, and we have to put down the receiver in despair when the tram is going; and when is it not? I would be willing, if necessary, to contribute, with other subscribers, to help pay the cost of having the telephone wire removed from the vicinity of the tramline so that I may avoid the ear-splitting noise. Relying on your usual courtesy to do what you can to remedy this trouble. Yours, &c.,

Manager, Telephone Department. D. MOSES.

Sir, Manly Co-operative Steam Ferry Company (Limited), No. 5 Jetty, Circular Quay, 26 April, 1895.

I beg to draw your attention to the serious inconvenience caused by the telephone wires running so close to the electric tram wires between Sydney and Manly. At times it is almost impossible to use the telephone with success. If you could manage to have the wires removed a short distance I am sure you would earn the gratitude of all the Manly subscribers as well as of those who have occasion to communicate with Manly. Yours, &c.,

W. G. GERMAN,

The Secretary, Electric Telegraph Department, G.P.O. Secretary.

Sir, The Corso, Manly, 27 April, 1895.

I regret to have to complain of the service which obtains between here and Sydney, but there are times when it is utterly impossible to get a clear and distinct communication, and you will agree with me, I am sure, when I say that this is not as it ought to be. I have been told that the cause of the indistinctness is the closeness of the telephone wire to that of the electric tram. Be this as it may, I feel that I am quite justified in bringing the matter under your notice in the hope that something may be done to remedy the existing state of things. The service is not of much benefit unless it is perfect. Yours, &c.,

The Manager, Telephones, G.P.O. ALEX. CUTHILL.

Memorandum from H. Townsend Robey, Auctioneer and Property Agent, Esplanade, Manly, Tel. 19, to Manager, Telephone Dept., City.

Dear Sir, 27 April, 1895.

I have the honor to inform you that when the cable tram is working it is almost impossible to use the telephone between here and Sydney, and as more trips will be required by the North Sydney traffic it will become worse. I, therefore, trust you will endeavour to get the matter remedied as soon as possible. I would also suggest that the Police-station be connected with the Telephone, Manly Exchange.

H. T. ROBEY.

Dear Sir, Trafalgar-square, Mosman, 9 October, 1895.

Please find enclosed cheque for telephone. I trust you will connect other wire, for there are times when it is useless—we cannot understand a word; other times it is quite distinct. Please send acknowledgment for cheque. I have mislaid account. Yours, &c.,

The Manager, Telephone Department. JAMES HALSTEAD.

61, North Sydney Telephone Exchange, 18 September, 1895.

I HAVE been compelled to work Manly Exchange through translators since yesterday.

Chowder Bay Hotel and James Halstead are unworkable owing to the disturbances from the electric tram.

G. J. LANGESCHWERDT,

The Manager, Telephones. Exchange Foreman.

---

18 September, 1895.

IF things do not improve very much it will be necessary to continue using a metallic circuit to Manly, and get two more trunk-lines erected. Mr. Halstead's line, which terminates close to the terminus of the tram-line, is quite unworkable, and it is necessary that another wire be erected between there and North Sydney Exchange at once.

Secretary of Telegraph Service. S. J. WATSON.

Sir, Board of Health Offices, 127, Macquarie-street, Sydney, 9 April, 1896.

In reply to your oral inquiry of the present date, I am directed to inform you that the telephone line between these offices and the Quarantine Station at North Head is frequently, and very inconveniently, interrupted by the influence of the electric tram running along the Military Road, North Sydney—so much so that at times conversation has to be many times repeated, or else abandoned.

In this connection I would refer you to my previous complaints of a similar character.

I have, &c.,

C. A. SIMMS,

The Secretary for Electric Telegraphs, General Post Office. Acting Secretary.

Sir, Council Chambers, Manly, 9 April, 1896.

Referring to the matter of the telephone system in our suburb, I have the honor to inform you that great inconvenience is at times caused assumedly by the North Shore electric tram.

At times it is utterly impossible to communicate with Sydney; and it was only to-day that on several occasions the replies were utterly unintelligible. I have, &c.,

Trusting you will be able to remedy our inconvenience. T. C. HAYLOCK,

Council Clerk.

Dear Sir, Manly, 10 April, 1896.

We, the undersigned subscribers to the Telephone Exchange, regret that we again have to complain of the great noise on our line, which has been very much worse than usual the last few days, and which interferes very seriously with the transmission of messages. The interference is so great, and the messages have to be repeated so often, that one dreads to be called to the machine, and the doubt in the end as to whether the message has been properly received renders the whole thing practically useless.

We, therefore, rely upon your help in this matter, and beg to urge you to have the matter remedied at once, and to subscribe ourselves,

Yours truly,

A. C. M. HILL.
T. C. HAYLOCK, Council Clerk.
GEO. L. RICHARDSON, Corso, Manly.
BUTLER BROS., Corso, Manly.

Secretary of the Telegraph Department. SYDNEY C. WILKINS, Esplanade, Manly.

APPENDIX B.

[*Electrical Review*, 16th December, 1892, page 732.]

NATIONAL TELEPHONE COMPANY *v.* LEEDS TRAMWAY COMPANY.

Extracts from Evidence.

Sir Richard Webster's remarks on metallic return wires for tramways and the interference caused by electric tramways to the telephone system.—"There was also the well-known principle of using an insulated metallic wire as a return. That system had been successfully used, and perhaps the most successful tramway at present known, that at Buda Pesth, was worked upon that system, which could be quite conveniently used without any disturbance of telephonic or telegraphic lines in its neighbourhood." After describing the Trolley Tramway system, which is identical with the one proposed for Sydney, he says:—"In the case of the telephone the current used was quite light; but the pressure of the tramway current

current was very considerable, something like 300 volts. In addition to that, the difficulty, if not the impossibility, of making a good contact between the trolley and the conducting wire was such that the potential was constantly varying, so that there was continuously going on, whilst the cars were running, a discharge of current of rapidly-varying intensity to the earth in close proximity to the telephone wires, which in many instances ran along the same streets. This, it would be established by evidence, meant constant and violent changes of current in the telephone circuit by means of induction, which rendered the telephones within the electrical field absolutely inaudible for a space of time, very often many minutes together, and sometimes continuously during the business hours of the day when the tramway was working; sometimes a musical humming would be heard, sometimes a groaning and grunting. Perfectly independent people would give testimony that the effect on the telephonic circuit was to render it for commercial purposes absolutely useless."

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 14 April, 1896.

[*Electrical Review*, 23rd December, 1892, page 759.]

Dr. John Hopkinson on two systems of telephone communication worked from one board.—"It is perfectly simple, is it not, and feasible, to have part of your system furnished with metallic returns, and part with earth returns? There are drawbacks in doing that, but it is possible."

Lord Kelvin on disturbances caused by electric tramways to telephone lines.—"He went to Leeds on 3rd June for the purpose of examining into the disturbances in the telephones there. He first listened at the central station of the company at Commercial Buildings, and afterwards at the Roundhay Call office. The disturbances were very severe, and the starting and stopping of the tram-cars could be heard perfectly. There was a humming sound, which he believed was due to the dynamo. There was also a rough sound, and altogether a very loud roar during the time the tram was running, so much so that it made conversation almost impossible; he thought for ordinary subscribers quite impossible. In his opinion the disturbance would interfere very seriously with the commercial usefulness of the telephone. The causes of the disturbance were the changes of the strength of current and an electrification of the wire or wires of the tramway system. He was acquainted with the defendant's system, and believed that system likely to produce serious disturbances. The connection by trolley was objectionable, because there was a varying resistance between the wire and the trolley. The wire was not perfectly rigid, but hung by steel hangers, and sagged somewhat, so that there was varying degrees of contact between the trolley and the wire. There was also a varying contact between the wheels and the rails. He had heard of flashes being seen between the wheels and the rails. That was due to the wheel hopping on the rail, and certainly produced a disturbance in the telephone. Anything like dirt or a stone on the rail which made the wheel jump, or if the wheel did not press uniformly on the rail, would cause a disturbance."

Sir Richard Webster: A question was put yesterday as to whether or not the disturbances in the telephones could not be got rid of by duplicating the wire affected for a limited portion only of the circuit, and then going to earth. In your opinion, would that cure the disturbance? I believe the disturbance might be cured for a particular subscriber by duplicating his wire and keeping his system wholly insulated, but that would be exceedingly inconvenient.

Short of that, I wanted to call your attention to the limited alteration suggested of duplicating only a small portion of the way, and then only partially, and having earth return at the central station or to another subscriber;—would that get over the difficulty? I believe it would not. I have reason for this view in the fact that duplicated wires—perfectly insulated wires—do get over the difficulty of ordinary induction disturbances; but when one point is put to earth the disturbances are immediately heard. Since the Court rose yesterday I have tried that. I have long known that that was the case from information given to me, but I wished to prove it by hearing it myself, and I went to the central station of the National Telephone Company in Oxford Court, and several cases were shown to me taken according to what lines we could find free at the time, and in each case the most marked disturbance was produced by touching the previously-insulated metallic circuit with a wire leading to the ordinary earth of the station.

I understand you to say that if the suggestion were made that there should be what I should call a local doubling for either the whole or a bit of a particular subscriber's line, when that came to be coupled up at the central station with another circuit which was taken to earth at the central station the disturbance would arise just as much? Yes.

Mr. Justice Kekewich: Might arise? It certainly does arise in the cases that are known; in many cases that are known, and I believe in every case that has been tried.

Sir Richard Webster: And practically nothing but an absolute and complete establishment of the telephone system throughout on the double wire with no earths would have the effect of curing it? So far as evidence from observation goes that is the case.

I want to put this case to you: Here is a tram-line, and here is the exchange, a mile or two from the tram-line, as I believe it is at Leeds;—here is a subscriber, whose wire for some distance runs parallel with the tram-line and is taken to earth near the subscriber's house;—what I suggest is that instead of taking him to earth at his house you should bring back a return wire and take it to earth near the exchange? Yes; that is a very good suggestion. I do not think that would cure the disturbance from what I heard with my own ears last night.

You, as a scientific man, would scarcely consider that an experiment of that kind, with the conditions of which outside the office you knew nothing, was sufficient to base a theory on, would you? It would be an auxiliary towards a theory certainly. It suggests that we have no demonstration whatever, that the protection against the telephone disturbance would be practically sufficient if one point of the complete circuit is put to earth.

The disturbance that you heard, of course, may have been due to conduction, or to some other cause? Conduction and induction. If there were imperfect insulation there would be something of conduction.

Have not the facts which have led you to this opinion been really drawn from experiments on long-distance wires? No, not from long-distance wires, but from wires of a few miles length. In fact, if I remember rightly, it was before the wire to Birmingham was laid at all that this effect was first noticed. There were many efforts to cure the disturbance. It was supposed that a metallic circuit with one point insulated would cure the disturbance. Practically it was ascertained it does not. You have it always in every case.

Your suggestion is that in order to cure the disturbance the metallic return must not go to earth, but must be a complete return? Must be insulated everywhere.

[*Electrical Review*, 6th January, 1893, page 15.]

Mr. Reginald Alexander Dalzell, Manager of the North Lancashire District of the National Telephone Company, on disturbance on telephone wires with earth return.

Sir Richard Webster: A suggestion was made which I think you happen to be able to say something about; I refer to the suggestion of taking a subscriber whose return earth would be affected by the tramway, back to a subscriber at another distance, and allowing him to come back through that subscriber's wire;—would that cure the defect? No; it would not cure it. I tried that, and whilst there was a slight improvement, it was nothing that would do any good. One knows also that that is not effective from practice on other lines. When we are working a loop-line it is absolutely necessary for us to have that line insulated throughout. If it is a wet day, and we get a contact with a wet branch of a tree, or something of that kind, the balance of the line, I cannot say why or how, is upset, and we get noise on that line immediately it is passing through an affected area—an area where there is any disturbance from outside causes.

Mr. Daniel Sinclair, Engineer and Electrician-in-Chief to the National Telephone Company, on the difficulty in working metallic and earth returns in conjunction with one another.

He had a very large experience of the effect of earthing a portion of a circuit where there was a metallic return, and he was able to say that that would not get rid of the difficulty from disturbances. He had gone through similar experiments to that described by Mr. Dalzell over and over again, because it was of immense importance to see if they could do what had been suggested. If they could have done that they would have overcome a difficulty that had cost them many thousands of pounds in erecting their switch-boards. Snow had done serious injury to the telephonic system, especially in London, and an increase in the number of overhead wires would increase the liability to injury from that source.

Cross-examined by Mr. Bousfield: You probably know that in Stockholm the Government has insisted upon the whole of the wires being furnished with metallic returns? I do not know that. What I do know is that when I was there in October of last year the large exchange had not metallic returns, but that the Government exchange had. The Government exchange at that time had about 600 subscribers, and the private exchange several thousands. The subscribers on the one exchange could communicate with the subscribers on the other, so that the metallic returns were capable of being worked in conjunction with the earth returns.

Then

P B. Walker, Esq., M.I C.E., M.I.E E

14 April, 1896

Then your experience teaches you that there is no practical difficulty in working a number of metallic returns in conjunction with a larger number of earth returns? My experience does not teach me that there was no difficulty

But it was done in Stockholm, and done successfully? I cannot say it was done successfully

Why not? Because the fact of joining a loop on to a single wire introduces another piece of machinery When that is used the speech is weakened

It was done there with transformers, was it not? I am not sure

It was done by the same system that has been put to some of the witnesses of having a line partially single and then doubled on itself? All I can say is, if it is done that way it cannot be successful

You are familiar with working an earth line in conjunction with a complete metallic line? Yes, that is done by means of a translator

The cost of these translators is about 9d each? No, it may vary from 8s to 20s.

I suppose you are speaking of the translators used on your trunk lines? Yes

Would that be so for short distance connections such as I have suggested in Leeds? The repeaters or transformers would be the same, we have only one class

You can use a transformer which would be a matter of only a few pence? I think not

Re-examined by Sir Richard Webster If you get more than one of these transformers in a line, is there any difficulty in ringing up? Yes; and they reduce the effective talking as well

[*Electrical Review*, 13th January, 1893, page 41]

Mr. William Henry Preece, F R S, Chief Engineer and Electrician to Her Majesty's General Post Office, President of the Institution of Electrical Engineers, and a Member of the Institution and Council of Civil Engineers

He had for many years had control of the electrical department of the Post Office, both of the telegraphs and the telephones With regard to telegraphs, the earth return was invariably used, and they found that they were not interfered with by tramways or electric light currents For telephones also it was the invariable practice of the Post Office to adopt a metallic return When telephones were first brought to this country, some fifteen years ago, he took an immense amount of trouble to investigate the various disturbances to which telephones were subject, and he tried to separate and differentiate the various causes He came to the conclusion that the only possible way of making a telephone work satisfactorily and clearly was to use a metallic return The Telephone Company had never suggested to the Post Office that the telegraphs were a nuisance to them, but he knew, as a matter of fact, that the telephones were disturbed by the telegraph wires, and the fact that they were able to read messages from wires 80 feet away led to a very interesting investigation, which was still proceeding, and which was rather opening their eyes as to the distance to which disturbances could be carried. The messages referred to were messages sent upon a circuit from London to Bradford, and they were read upon some local circuit in London There was no more delicate instrument for picking up and indicating stray vibratory currents than the telephone. Cross talk was quite common on the telephones in London, but one got quite used to it, and was able to carry on a conversation without noticing it, as one would do in ordinary conversation in a room whilst other people were talking all round There were other disturbing sounds, arising from all kinds of causes the Metropolitan Railway; the South London Railway, the electric light currents; the earth currents, the atmospheric currents, especially when thunder was about, it was impossible, in fact, to differentiate from the sounds you heard the causes of those sounds With a metallic circuit all those disturbances were avoided

Mr Justice Kekewich I should like to know that I understand it I gather from the map and from what I have heard that the particular district with which we are dealing is what may be called a suburb of Leeds, and it is not densely populated Supposing these conditions were changed, as they might very well be, and you had a great many houses there, side by side in rows and squares and so on, each of which required the telephone, and you had to supply double metallic returns, returns for every house, then it would come to a very serious matter indeed, and if it is right there, it is right in a great many other places too

Mr Bousfield (to witness) You think it is the right thing to do everywhere? I do, undoubtedly

What is your view as to the course of an electric current connected to water pipes laid in the earth—I mean as regards the amount which would follow the water pipes, and the amount which would break through the earth? That is a very difficult question indeed to answer The behaviour of currents through the earth is very remarkable, and however perfect the earth may be between two stations, connected by an earth plate, the lines of current sweep around over an immense area In Leeds itself we have found traces of conduction of these tramway currents 1,200 yards away from the tramway line, and in South Wales, where I have recently been making some experiments, we have even traced these earth currents to a distance of quite 2 miles from the circuit

With reference to telegraphs, you have had interference from similar things to tramways, have you not? Yes, we have had interference from the South London Electric Railway

That is worked with an insulated return? A single wire and earth return, but they use the rails for the return inside an iron tube The Deptford electric light current disturbed the telephone circuits, but not the telegraph circuits, that witness remembered A tramway might disturb more than electric light currents, but not more than such a system as that carried out at Deptford, which was on alternate current lines In Leeds itself, the Post Office lines had no disturbance, but they did have the presence in their telegraph circuits of small currents which they had no doubt came from the tramway

APPENDIX C

[*The Electrician*, 23rd June, 1893, page 207]

EXTRACTS of evidence given before a Joint Committee of both Houses of Parliament (England) appointed to consider the question of protective clauses to be inserted in private Bills relating to electric traction

Sir Courtney Boyle, K C B, Permanent Secretary to the Board of Trade, stated that * * * there was no doubt that, either by leakage or by induction, the tramways, when they used electricity, might inadvertently cause electrical disturbance in the vicinity of their circuits That disturbance caused material interference with the very delicate, sensitive instruments used by the Telephone Company and the Telegraph Company The metallic return circuit was used in some systems The telephone companies had got the earth, and used the earth, and they pleaded to be allowed to use the earth by prescriptive as well as by inherent right Electric traction, both on tramways and railways, was growing in popularity, and would grow still more if the question of the use of the earth return could be settled

Asked "Have there been any decisions on the question?" Yes; the case known as the Leeds case, which was between the National Telephone Company and the Leeds Corporation A special inquiry was organised by Mr MacRory, whose report showed that undoubtedly there was interference with the sensitive instruments of the National Telephone Company In delivering that judgment, Mr Justice Kekewich said, "True it is that the analogy introduced above"—that is, the use of land for extraordinary purposes—"holds to this extent the plaintiffs are using for extraordinary purposes"—the plaintiffs being the Telephone Company—"but admittedly it is a lawful purpose, and though under an obligation to obviate mischief in their own operations with their neighbours, they are under none, in my judgment, to protect themselves from the defendants or others" The learned Judge went on to say that the defendant's plea was good in law, and they are not responsible to the plaintiffs for any mischief caused by their working. The defendant's authority was derived under a provisional order confirmed by Act of Parliament A little further on the Judge said, "The defendants are expressly authorised to use electrical power, and the Legislature must be taken to have contemplated it, and to have condoned by anticipation any mischief arising from the reasonable exercise of the power" Practically, the defendants—that is to say, the Tramway Company—enjoyed certain advantages from the decision, because they had a provisional order confirmed by Parliament

Asked by Mr Brunner Are there no more cases of mischief resulting from electrical disturbance than those you have mentioned? * * The number of tramway companies using electricity at present is very small, and the electric lighting companies are forbidden to use earth, so that the danger does not, and cannot, occur very often; but if you sanction electricity for traction purposes the number of instances in which there might be danger would grow

By Earl Russell The argument is that the expense is much less to the telephone companies to use the insulated returns than to the tramway companies? That is the argument advanced by the tramway companies, and there is a great deal of weight in that. The tramway companies say, "It will cost us a very great deal to protect our system absolutely from

from danger. It would not cost the telephone companies very much." And, on the other hand, the telephone companies say, "We have established a very large and far-reaching system of telephoning, which is very largely in the interests of the public, and we do not see why we should be obliged to alter our system because other people may injure us."

By Sir Bernard Samuelson: Do the electrical tramway companies admit responsibility regarding accidents occurring through leakage or earthing? They say it is almost impossible to prevent leakage; the phrase used is "absolutely impossible." There is an instance brought forward from Buda-Pesth, where it is stated that it has been done.

By the Chairman: You are representing neither one interest nor the other. You have simply come to put before us the matter as it was placed before the Board of Trade? I have no interest whatever to represent. The difficulty has been so overwhelming that the Board of Trade itself has decided, as regards its own provisional orders, that we had better appeal to a stronger tribunal to settle what we had better do.

Mr. Preece was then called. He had given a great deal of attention during the past ten years to the disturbance created in the existing wires by the new and important applications of electricity to electric lighting and to the working of railways during that period. They had found their (the Post Office) telegraphs and telephones were gradually being disturbed. The disturbance arose from two causes: the first was due to the passage of currents of electricity through the crust of the earth; and the second arose from what was called induction. The currents through the earth were the more serious ones. The effects due to induction were easily removable, but of course it would cost money. The whole telegraphs of the world at the present moment were worked with the use of the earth, and the telephone being the child of the telegraph, had originally in America also used the earth as part of the circuit. The first telephone which was fixed in London was fixed on a metallic circuit. Ever since then the Post Office had invariably used metallic circuits. The Telephone Company, on the other hand, in their town systems used the earth, but in their trunk systems, which was very extensive, used metallic circuits.

Mr. William E. L. Gaine, General Manager of the National Telephone Company, was asked—Supposing that electric traction of a similar character to that which is employed on the tramway at Leeds were sanctioned and used on the Liverpool tramways, would all these lines of wires be so disturbed that you would have to turn them into metallic circuits? Judging from the experience the Company has at Leeds, undoubtedly that would be so. Those lines would be valueless for commercial purposes. I am particularly anxious to impress my views with regard to this on the Committee. Mr. Preece in his evidence yesterday was very strong; it appeared to me that the remedy of the telephone company was to duplicate their wires, but I doubt whether Mr. Preece or anybody else realised what that meant. This system has been built up for a number of years, and their 3,500 or 4,000 wires coming into the Liverpool Exchange had to come in all over the roofs for which switchboards, &c., had been put up. The great bulk of the switchboards of the country were single boards; it meant the taking out of those—an enormous work, and the re-erecting of the entire system; and he had no hesitation in saying that if the Leeds tramway were planted in the City of Liverpool to-morrow, Liverpool would be deprived of the telephone for at least five or six years. He would not undertake to reduplicate the wires and rearrange that system under that time. Asked—"You have said nothing of the enormous cost; those switchboards are very expensive, are they not?" A switchboard for an exchange the size of the Liverpool Exchange would not be less than £20,000. That, of course, did not take into account the cost of way-leaves and ordinary repairs and maintenance. The Leeds tramway ran through one of the outskirts of Leeds, and it disturbed, comparatively speaking, only a few lines—twenty-six lines. Although they had only twenty-six lines disturbed in Leeds, the cost of putting them on to a small extra exchange was between £600 and £700. If this was carried out to its logical conclusion, and assuming that the traction were to be universal all over the country, he estimated that it would cost the company not very far from £2,000,000 of money.

By Mr. Forwood: If the tramways were to be worked by electricity they would want four or five years' notice of it. The underground system was more economical in maintenance, but it did not give so efficient a service telephonically as an overhead wire. There was nothing so good as an overhead wire.

Dr. John Hopkinson: He made an inspection of the Leeds tramway in 1891. He also went into the Leeds Telephone Exchange, which was on the single-wire system, and on using the telephone he heard a noise which would rise and fall at a varying pitch, so that it was impossible to converse with any distinctness. He could hear the cars stop, and could hear distinctly that there were two cars running by the difference of the pitch in the note. The sound diminished in loudness as the cars took a larger or smaller current. When the cars stopped there was practically no disturbance.

When asked: In your opinion was that noise such as would prevent the proper working of the telephone exchange on the single-wire system? Yes, undoubtedly it was. He had had an experience of telephone exchanges worked on the single-wire system where there was no electrical tramway, and found that there was no disturbance.

Lord Kelvin stated: In the summer of last year he accompanied Sir Frederick Bramwell to Leeds to make an inspection of the tramway works there. He found that the return circuit was not insulated, and there was a very great disturbance on the neighbouring telephone lines. He attributed the disturbance partly to leakage and partly to induction.

In answer to Mr. Prember, who asked whether the tramway was worked by a direct current, he replied:—Yes; but the current continually alters. Multiplication of contacts on the car would diminish the disturbance. He thought the disturbance could be prevented by having two conductors and keeping the conductors of the tram-line wholly insulated.

[*The Electrician*, 30th June, 1893, page 234.]

Mr. D. Sinclair, Engineer-in-Chief of the National Telephone Company, was asked by Mr. Moulton if any change was ordered would it take any considerable time to make it? Taking the town of Liverpool, there were 3,500 telephone wires. If they had to metallic those overhead, the standards which carry the present wires would not be sufficient, so that it would mean sweeping down the entire system and building up a new system to carry twice as many wires. Inasmuch as it was impossible to work an exchange partly on the single and partly on the double on any large scale, they would have to make the change all at once.

The Chairman asked how it was done in London, because evidence had been given that in London the system is being exchanged at the present moment? The witness said that in London they were doing substantially what he had suggested. They were providing extra wires so as to make the metallic circuit, but with a few solitary exceptions they were not yet put into operation, as they could not work the mixed system.

Sir Frederick Bramwell: Having described the system of working electrical cars at Leeds (the trolley) Sir Frederick Bramwell proceeded to say that the disturbance to the working of the telephones caused by the tramway was intolerable. In the Exchange, when the cars were at work they lost as many words as they heard.

Mr. James Swinbourne, on behalf of the Electric Traction Companies: In America it was found, as at Leeds, that it (electric traction) interfered with the telephones, and the solution there was very simple; the authorities there came to the conclusion the roads were meant for traction, and not for talking through. He did not think it would be possible to make the insulation (of the traction wires) so good as that it would not disturb telephones, and in some degree disturb also the railway people. If there were a clause that any interference with the telephone work would render them liable to an injunction, no engineer would proceed to put up a traction system. In addition to the difficulty from leakage there was also the difficulty of induction, and the latter he considered generally the more important cause of disturbance. In the Leeds case he agreed with Dr. Hopkinson that induction was a greater disturbing factor than leakage; induction would take place with the most perfect insulation.

Mr. R. E. Crompton stated his firm, in connection with several other firms, had been asked by the Glasgow Corporation to carry out an undertaking on the understanding that they should take over the responsibility of complying with the protective clauses introduced into their provisional order, and they found themselves utterly unable to take the responsibility on their shoulders. He spent a long time trying to find out if it were possible to devise means to so arrange their plant that they should not affect the telephone lines, and the results of his investigation was that he was reluctantly obliged to write to the Glasgow Corporation and inform them that they could not undertake the responsibility. He found that there was no known means in the world of doing what they were asked.

When asked whether he meant it is practically impossible to insulate electric tramways in such a way as not to interfere with telephones, he replied, I found it was impossible to so insulate (traction wires) as to make it quite certain that we should not interfere with telephones.

Asked again, "Is it possible to insulate in such a way as to ensure non-interfering with the telephones?" In my opinion, it is not possible.

Major Cardew, Electrical Adviser to the Board of Trade, called by the Committee as an independent witness, stated: A constant unvarying current would not affect telephones in the least, however much was escaping to earth, but in the case of tramways it was always varying. Sparking of the contact, sparking of the brushes, vibration in the motor, and in the way in which the motor was wound, was sufficient to cause the sudden variation.

By

P. B. Walker, Esq., M.I.C.E., M.I.E.E.

14 April, 1896.

By Major Darwin: The effect of inductive action from tramways upon telephones might be experienced for some hundreds of yards, but as regards leakage there were so many things to be considered that it would be difficult to say where the effect might be stopped, or where it might be found. It depended upon what pipes were in the ground, the nature of the ground, and also on the volts lost in the ground.

[*The Electrician*, 7th July, 1893, page 267.]

Necessity for metallic returns.

Mr. Balfour Browne, addressing the Committee on behalf of Municipal Corporations im England and Scotland, stated:—"The fact was that the telephones were not complete or perfect until they had a metallic circuit; and whatever the tramway companies might do it would be impossible, practically, to insulate so as not to interfere with the telephones."

Mr. Langdon said:—"This was not a question of electric traction against all the world; it was a question of the telephone against the world. The remedy was obvious; to get efficient telephones they must have metallic circuits."

Mr. Cripps, in addressing the Committee on behalf of the Traction Companies, said:—"Mr. Preece and all the other witnesses had stated the same—that the best system of telephonic communication was the metallic circuit return; that was the proper remedy, and that was the remedy for which the clause provided."

[*The Electrician*, 30th June, 1893, page 234.]

Mr. Sinclair's evidence was then proceeded with, and in reply to Mr. Cripps, he said that at Glasgow at the present time, to a limited extent, they used the same exchange for metallic and earth returns. At Stockholm there was very considerable difficulty in working some telephones on one system and some on another. While in the case of the National Telephone Company *v.* Graff Baker, he had said that the earth returns were capable of being worked in connection with the metallic returns—it was a question of degree. Up to 5 or 10 per cent. they could very well be worked together, but he understood they were now providing metallic switch-boards at Stockholm, which bore out what he strongly insisted upon—that when it became necessary to metallic the circuits it became necessary to metallic the circuit all round. Asked whether the difficulty of reaching over the switch-board could not be met by having additional operators, he said the best and only system, which was used in all large exchanges, was to have only one operator.

The Chairman: I understand what you mean is this: you have a great number of operators, but each of those operators is so placed that he or she can work every wire that comes into the place? The witness said that was exactly it. The largest exchange he had ever seen actually operated was 6,000 on the multiple system, so that they could imagine what it was;—that the operator had 22 inches or 23 inches to sit in, and within her reach they had to bring the connection for 6,000 lines. The operator on the other side had also to reach 6,000 lines, though, of course, they borrowed from each other to some extent.

Mr. Cripps: Why should there be greater difficulty on the metallic system than on the earth system of one operator reaching all the points of contact? The witness said that he did not contend that there would be greater difficulty, but the difficulty came in when they had a mixture of both. The reason greater space would be taken up was because they could not put forty into a space which was made for twenty.

1972. *Chairman.*] Would it be a very expensive thing to furnish a return wire in connection with the tramway? I think it would cost fully two-thirds more.

1973. £50,000 or £60,000? I should say it would.

1974. At the present time you are putting some of your wires underground? Yes; our telephone cables.

1975. Are not overhead wires the best? No doubt overhead wires with copper conductors are the best.

1976. Then why put your telephone cables underground? Because it is more convenient for the city.

1977. Is the convenience of the city sufficient compensation for a defective arrangement? It will not be a defective arrangement. It will practically be the same as the overhead arrangement.

1978. Will it be as good? Yes; it will not be a metallic circuit, but provision will be made for that ultimately.

1979. Are you sure that a metallic return for the city would cost £175,000? I am quite sure of it.

1980. Are there any metallic returns in use here? No.

1981. Is it usual with a telephonic system to have metallic returns? In most parts of the world it is.

1982. Why is there not a metallic return in use in Sydney? Because it is expensive.

1983. Is a metallic return regarded as a necessary adjunct to a telephone system? It is considered necessary where electric traction is used.

1984. But, irrespective of electric traction, is it not necessary to prevent disturbance by reason of noise? Of course it is wisest where there is much noise or interference to have a metallic circuit. Although the Government here have no metallic circuit, I have put down a very complete system for the military authorities at Middle Head and South Head in connection with the forts.

1985. Apart from the possibility of electric traction being adopted in the city, will not a metallic circuit ultimately be required here to prevent disturbance from ordinary noise? Certainly not.

1986. In London they have a metallic circuit? Yes; because they consider it most effective, though, of course, it is expensive.

1987. Our system being without a metallic circuit is not complete? It is a complete earth system, sufficient for all practical purposes.

1988. Is a metallic circuit used in connection with telephone systems in most parts of the world? No; only where there is electric traction.

1989. But in a great city is a metallic return system the best? Yes, decidedly.

1990. Do you not think it reasonable to suppose that inasmuch as London and other places have adopted the metallic return system, Sydney will some day have to adopt it? No. I think they adopted it in London because they foresaw that electric-traction wires and electric-light wires were likely to come greatly into use there. Electric-light wires do not affect the telephones so much as electric-traction wires do.

1991. In extending your telephone system are you furnishing metallic circuits? No, I am getting metallic cables for the underground tunnels; but it is not proposed to use them as metallic circuits at present, because there are no metallic switchboards.

1992. Eventually you will use them as metallic circuits? If we are forced to do so.

1993. How long would it take you to make the preparations necessary for dealing with the difficulty which would be created by the erection of electric-traction wires in the street? At least four years, and probably longer.

1994. *Mr. Humphery.*] I think you said, in answer to the Chairman, that in London metallic circuits had been adopted by all the companies? Not by all the companies; only by the Post Office authorities. The London Post Office authorities have only about 600 miles of telephone, and there are some 30,000 or 40,000 miles of telephone wires in London.

1995. Practically, your statement demonstrates that an electric tramway along George and Harris Streets would interfere with the working of more than 2,000 telephones, and that apart from the cost of providing complete

complete metallic circuits to minimise this interference, four years would be occupied in effecting the necessary change? It would take fully that, because you will have to rebuild the whole system before making any alteration. You would, in point of fact, have to duplicate it. P. B. Walker, Esq., M.I.C.E., M.I.E.E.

1996. I observe July, 1893, is the date of your latest extract from the *Electrician;* has anything occurred since that date to modify the conclusion then arrived at, and do you adhere to the very positive evidence already given by you both as regards the effect of electric-traction wires on telephones and the great cost that would be incurred by your Department if electric tramways were constructed here? I see no reason to alter my opinion; the opinions I supplied to you are selected from the very best authorities up to date, and later authorities have not altered these opinions. 14 April, 1896.

1997. In dealing with the proposal under consideration, do you desire the Committee to definitely understand that not less than £175,000, and probably considerably more, would have to be expended upon alterations to our telephone system before an electric tramway, if constructed, could be operated without serious disturbance to the telephone? Certainly.

1998. *Mr. Trickett.*] Will you look at Mr. Elwell's evidence—Questions 1221 to 1228;—his evidence would appear in some way to bear out the objections you have raised? Yes.

1999. But he seems to infer that by bonding the rails with copper connections a return circuit would be made something similar to the metallic circuit to which you have referred;—do you think it will be sufficient? Lord Kelvin does not think that it is, and I agree with him.

2000. You think that this bonding would not be sufficient to prevent disturbance to the telephone wires? Yes.

2001. Have you and Mr. Elwell thrashed this question out? No; he had an interview with me about it, but I was not able to gather any particulars from him.

2002. When you speak about providing metallic circuits to the telephones, you mean that every telephone wire must be duplicated? Quite so.

2003. That, you think, is the only way of effectually preventing disturbance? Yes.

2004. Now will you kindly look at Questions 1330 to 1341? I quite agree that a metallic circuit is absolutely necessary where an electric-traction wire is being used. I cannot agree, however, with the statement that this copper connection of the rails has had the effect of preventing disturbance of the telephone wires on the Military Road tram. Mr. Elwell's statement is contradicted by complaints which have been received within the last day or two.

2005. Then look at the statement contained in answer to Question 1492? That is quite right where a current is travelling along a parallel wire. If it is a permanent current it does not affect the other wire, but if it is an interrupted current it does affect it.

WEDNESDAY, 15 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	George Black, Esq.

Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Philip Billingsley Walker, Esq., M.I.C.E., M.I.E.E., Secretary to the Electric Telegraph Department, sworn, and further examined:—

2006. *Mr. Lee.*] I think that, in reply to a question asked by Mr. Humphery yesterday regarding the cost of constructing the telephone system, you gave an estimate of some £52,000? I found, on looking over the evidence this morning, that I had made an error there. The total cost of construction is £92,690. I have corrected that in the evidence. P. B. Walker, Esq., M.I.C.E., M.I.E.E.

2007. I think you also said that the contemplated cost of giving an electric return for the telephone system would be £150,000? £175,000. 15 April, 1896.

2008. How do you account for the large discrepancy between the first cost and the cost of putting in a return service? Of course the extra cost would be made up by extra switchboards for the metallic circuits. There will be a large amount for that. It would cost about £25,000 to get extra switchboards, and then the system that we have got now was not so large as it is at present; it has gradually grown. Therefore to double a big service would cost a much larger sum than it would cost to build it up to what it is at present. The cost of construction would probably be about £150,000, and it would cost about £25,000 for the extra machinery to work the exchange. That is how I make out the cost.

2009. If you had a metallic circuit in existence now, and all future connections were made on the same basis, would it cost the same in proportion? You could not actually put up any metallic circuit in connection with the present system. Before you did anything you would have to entirely duplicate the present system; therefore it would have to be wiped out altogether, because you could not work your instruments in conjunction with it whilst putting in a new system which would have to be done so as not to inconvenience subscribers. Therefore you would have to go to the expense of putting up an entirely new system before you could do anything with this system, except in one or two cases where you could use a second return wire. Out in the suburbs you could do it in some cases, but in the larger portion of the system you would have to build the whole of the lines.

2010. As head of the Department, do you expect that system to grow very largely in the future? Yes; in fact, it is growing very rapidly now.

2011. Within the next twenty years it may probably treble itself? Yes, it will probably treble itself.

2012. And will necessitate a net work of wires probably all over the main streets of the city and suburbs? Quite so.

2013. The gist of your objection, and the authorities you have quoted, is that the main interference would be by way of induction? Quite so.

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 15 April, 1896.

2014. In front of your office—the George-street frontage—at the present time are there not a very large number of wires entering the building? Yes, there are.
2015. Coming by way of Barrack-street? Yes.
2016. Is the whole of the telegraphic and the whole of the telephonic system conveyed through that frontage? No, certainly not.
2017. Only a portion of it? Yes; we have 962 wires going down Pitt-street, and nearly 1,000 wires going up Pitt-street, and then we have a number of wires going up Moore-street into Castlereagh-street, and distributing in all parts of the city.
2018. About what height would the lowest of those wires be from the street surface? About 18 feet.
2019. The proposed tram-wire would, I believe, be about 18 ft. 6 in. from the street surface? Yes; that would be 6 inches above ours. The lowest wire is 18 feet, but the highest wire may be 40 feet—that is, we have posts 35, 40, and 50 feet high in all parts of the city, and we are taking them out every day and putting in fresh posts to provide for further extensions.
2020. The raising of those wires in George-street to a level a few feet higher would not be a matter of very great difficulty if circumstances should warrant it? That would not rectify the matter in the slightest.
2021. What would be the effect upon those wires of having a tram-wire 6 or 18 inches from them;—you have already told us of induction;—would it be to a greater or lesser extent? There is no doubt that there would be a great deal of induction, but it would be difficult to say the exact amount of disturbance.
2022. But would the disturbance of your wires be greater on account of their close proximity? Most certainly.
2023. That in itself would be a serious trouble at that particular point? Most decidedly it would.
2024. Have you any knowledge of the working of the telephone and electric traction systems in America? Yes.
2025. Can you cite any instances where the telephonic services either in America or Europe have been disturbed by the electric traction system? I could cite numerous instances, but at present I have not got them at my fingers' ends. I know there are numerous cases in America, which is the principal place for traction wires. There are some 10,000 miles under traction in America, and in many cases there the companies have come to an amicable arrangement as regards the traction wire and the telephone. The result has been that the telephone companies have had to resort to a metallic circuit. In Edinburgh, not very long ago, the telephone company made the Corporation duplicate their wires—that is, they made them put up a metallic circuit for them, in consequence of their adopting a traction system. Those are cases I know of, and I have no doubt that I could turn up a number of cases if they were required.
2026. You know of many instances occurring in different parts of the world of interference with the telephone system where electric traction is used? Yes.
2027. You are satisfied of that? Quite so.
2028. You have also within your knowledge the fact that in consequence of those disturbances the companies have had to come to an arrangement, and make such alterations as would permit of the telephone services being properly used? Yes.
2029. Is that the gist of your evidence? Yes.
2030. Therefore that is an interference which is by no means new? Certainly not.
2031. It is well known to electricians? It is well known to electrical engineers.
2032. Then, so far as your extended knowledge goes, you have that knowledge corroborated by the interference that has occurred at North Shore? Yes.
2033. That is a matter of actual practical experience? An actual fact.
2034. Therefore, whatever may have been written and said by eminent men in other parts of the world, you, in your position, have been able to prove the same thing? Quite so.
2035. And the complaints which you have received from constituents in connection with the telephone exchange have placed you in a position to be able to say that that interference existed not only before the alterations were made in the electric tram at North Shore, but has also existed since the alterations were made, and exists to-day? To a certain extent it does exist still.
2036. And you have already said that you will not be able to get rid of that difficulty unless you spend a large sum of money in putting down a metallic circuit? Quite so.
2037. *Mr. Wright.*] You stated just now, in answering a question put by Mr. Lee, that you thought the telephone system would gradually increase, and in the course of twenty years would treble itself? Yes.
2038. Now, as a matter of fact, if that be the case, can you do much longer without a metallic circuit? Well, of course, that is a question that would have to come up later on.
2039. Supposing that you had twice the present number of subscribers to the telephonic system, could you work it satisfactorily without a metallic circuit? I daresay we could work it satisfactorily, but it would be much better if we put in a metallic circuit.
2040. You are aware that at the present time there is considerable difficulty in the streets where the wires cross—that the telephone system is not satisfactory? I am aware of it. That is a thing which exists in connection with all exchanges where circuits are used. You find it in Melbourne ten times more than in Sydney.
2041. And necessarily it will exist? Yes; so long as you have no metallic circuit.
2042. You still think that if the number of subscribers were doubled you could work it as it is worked now? Yes, it could be worked.
2043. I suppose that every additional 100 subscribers would increase the difficulty? Of course that would increase the difficulty.
2044. *Mr. Black.*] I want to ask you one question, to begin with, in regard to technical terms;—are the words "transformers," "repeaters," and "translators," convertible, synonymous terms? Yes. Well, "translators" are what we use for telephones. They are really "repeaters." "Transformers" are used for electric-lighting purposes. A "translator" is merely a "repeater" of the current that goes through, in the shape of an induction coil. It acts as a sort of "repeater" to the main wire.
2045. I understand that your objection to a system of metallic circuit in telephone matters is on the score of expense? Yes.
2046. If a telephonic metallic circuit would prevent induction, would not a tramway metallic circuit be as, or even more, successful in that direction so far as the telephone is concerned? It would answer just as well.

2047.

2047. I mean that, if you make a metallic circuit on your tramway so complete that there is no danger, by variation or any other means, of your telephonic communication being affected, would not that so far as the tramway is concerned remove your difficulty? Yes; but even if you had a metallic circuit, as in the case of the Buda-Pesth line, you will always find that leakage takes place. That has been proved in connection with the Buda-Pesth system which is considered to be one of the best systems extant.

2048. I understand that there are other means of interference with the success of telephoning, such as the telegraph wires, electric light currents, and all great noises, such as that of a railway? They affect it only slightly—not sufficient to interfere with it.

2049. Do you agree, on the whole, with the evidence given in this document handed in by you? I do.

2050. I want to read a few extracts—I have here the evidence of Mr. Wm. Henry Preece, F.R.S., Chief Engineer and Electrician to Her Majesty's General Post Office, President of the Institution of Electrical Engineers, and a Member of the Institution and Council of Civil Engineers; this, I believe, was evidence given before some Commission, was it not? Before the Electric Light Committee, I think it was.

2051. And reported in the *Electrical Review* of the 13th January, 1893, folio 41; that gentleman says:—

> With regard to telegraphs, the earth-return was invariably used, and they found that they were not interfered with by tramways or electric light currents. For telephones also it was the invariable practice of the Post Office to adopt a metallic return. When telephones were first brought to this country, some fifteen years ago, he took an immense amount of trouble to investigate the various disturbances to which telephones were subject, and he tried to separate and differentiate the various causes. He came to the conclusion that the only possible way of making a telephone work satisfactorily and clearly was to use a metallic return. The telephone company had never suggested to the Post Office that the telegraphs were a nuisance to them, but he knew, as a matter of fact, that the telephones were disturbed by the telegraph wires, and the fact that they were able to read messages from wires 80 feet away led to a very interesting investigation, which was still proceeding, and which was rather opening their eyes as to the distance to which disturbances could be carried. There was no more delicate instrument for picking up and indicating stray vibratory currents than the telephone. There were other disturbing sounds arising from all kinds of causes: the Metropolitan Railway; the South London Railway; the electric light currents, the earth currents, the atmospheric currents, especially when thunder was about; it was impossible, in fact, to differentiate from the sounds you heard the causes of those sounds. With a metallic circuit all those disturbances were avoided. In Leeds itself we have found traces of conduction of these tramway currents 1,200 yards away from the tram-line, and in South Wales, where I have recently been making some experiments, we have even traced these earth currents to a distance of quite 2 miles from the circuit. The Deptford electric light current disturbed the telephone circuits, but not the telegraph circuits.

From that I pass to the evidence of Mr. Balfour Browne, as reported in *The Electrician* of the 7th July, 1893. Addressing the Committee on behalf of Municipal Corporations in England and Scotland, he said:—

> The fact was that the telephones were not complete or perfect until they had a metallic circuit, and whatever the tramway companies might do it would be impossible, practically, to insulate so as not to interfere with the telephones.

Mr. Cripps, in addressing the Committee on behalf of the traction companies, said:—

> Mr. Preece and all the other witnesses had stated the same—that the best system of telephonic communication was the metallic circuit return. That was the proper remedy, and that was the remedy for which the clause provided.

There are two or three points that arise in connection with that evidence—one is that if it be true that these earth currents can be traced to a distance of quite 2 miles from the circuit, then it appears to me that if you have anywhere within the city of Sydney an electric overhead system you will have disturbance with your telephonic system unless you have a complete metallic circuit either in connection with your telephones or the tramways;—is that not so? Quite so.

2052. It appears also to me, from reading this evidence, that with the increasing noise of the metropolis, its probable lighting by electric light currents within the next few years, and with the construction of a city railway, no matter how great the expense, you will eventually be forced to apply a metallic circuit to your telephone arrangements? Then it becomes a question as to who should bear the expense—whether it should be a charge against the Railways or against the Postmaster-General's Department.

2053. But do you not think it is inevitable, if the telephonic system is to be improved, or even maintain its present, what seems to me, very low standard? No. The present telephone system is about the most perfect telephone system there is in Australasia, and will meet all requirements for the next ten years.

2054. Then I am sorry for the rest of Australasia; I always avoid using the telephone as much as I possibly can; I would rather walk a mile than speak through a telephone for two minutes; I would rather carry a message to a man than use the telephone, such is my experience of it;—do you not agree with me that the construction of a city railway and the erection of electric lighting apparatus throughout the city will be apt, as those able scientific witnesses have stated, to interfere with your telephonic system? There is no doubt that ultimately they will interfere with our telephonic system if they are largely introduced into the city. Electric lighting, however, does not interfere so much as electric traction.

2055. Are not the electric lighting cables so insulated as to render their interference with the telephonic system small? Of course induction takes place, but not to a very large extent.

2056. Supposing that it were possible, which I believe you do not admit, to so bond or weld the tramway lines, or to so use other means that the metallic circuit was complete and there was no leakage at all, would it not, even under those circumstances, be necessary for non-interference that there should be also a complete metallic circuit in the telephonic system? I do not consider that any bonding would make a traction service complete sufficiently to protect the telephonic system unless you had a metallic circuit. Of course, if the traction-line were made so as to have a complete return circuit then there would be no necessity for a metallic circuit for the telephone lines, and that return circuit must be by some means or other similar to the Buda-Pesth traction-line circuit—must be a return wire.

2057. You say that the influence of an electric tramway over a telephone is greater than all the other disturbing causes put together? Yes.

2058. Is it not a fact that much of the interference with telephones by electric tramways is due to variation in the force of the current? It is due to various causes. It is due to leakage, induction, and to constant breaking and making of contact; they all combine together and interfere with the working of the earth circuit of the telephonic system.

2059. In telegraphs the earth return is invariably used? Yes; but traction does not affect that.

2060. How is it that the telegraph wires escape the tramway current? Simply because they use a stronger current, and it is not so easily overpowered.

2061. It is not necessary for the purposes of the telephone to use any stronger current than that which you use at present? No, certainly not. We only want a light current.

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 15 April, 1896.

2062. Is it a fact that electric lighting companies are forbidden to use the earth as a return? They are in some cases.
2063. Do you think that it is true, as stated, that there is absolutely no leakage in the electric traction system in use at Buda-Pesth? It is stated so, but there have been instances of slight leakage occurring, notwithstanding the perfectness of the system there.
2064. You have heard nothing that would lead you to believe either that the system is perfect or that it is imperfect? I think it is about as perfect a system as could be made.
2065. Is it so perfect that if a similar system were in vogue here the interference with your telephonic communication would be infinitesimal? I believe so.
2066. Do you think that the bonding of rails, or the welding of rails, would sufficiently prevent leakage to minimise interference with your telephonic communication? I do not think that any bonding would prevent leakage.
2067. Is it a fact that the conduit system of electric traction is in use in Buda-Pesth? I believe it is, from the statement that I have seen.
2068. Do you look on that as furnishing the reason why the Buda-Pesth system does not interfere with the telephonic system in that city? Not from the fact of its being a conduit system—only from the fact of its being a return circuit.
2069. Then do you think that if in connection with the overhead wire system there was a return circuit that would be as successful in its insulation as the conduit electric traction system at Buda-Pesth? If there were a return circuit I have no doubt that to a very great extent it would relieve the telephone of all its difficulties.
2070. The return circuit in electric traction is as easily used in connection with the overhead system as in connection with the conduit system? I see no difficulty; it is only a matter of expense.
2071. Of course the overhead system is cheaper than the conduit system? No doubt it would be cheaper. The whole system of metallic return for telephones is only a matter of expense.
2072. You have had considerable trouble in your head office from the noise of the omnibuses in George-street? Not in George-street, but in Pitt-street we had some little noise, but that has all been removed.
2073. Has the repaving of Pitt-street quite removed the disturbance? Yes.
2074. With the wearing away of the pavement, will that disturbance not arise again? Of course, the disturbance did not arise to such an extent as to prevent the working of the exchange, and it did not actually effect the working of the wires, but merely affected the hearing of the operators; it had nothing whatever to do with the working of the wires. It had quite a different effect from that which a traction line would have on the telephone wires.
2075. Well, to sum up your evidence, your objection to the use of the electric tramway system in any part of Sydney, whether overhead or conduit, is due to the fact that under ordinary circumstances it would greatly interfere with telephonic communications? Quite so.
2076. If by the use of a complete metallic return—and I believe that is only possible with a return wire on the trams—there were no such interference as you fear, your objection to the electric tramway system would be removed? Quite so.
2077. *Mr. Humphery.*] You think that it may be necessary eventually to have a metallic circuit for a telephonic system;—is it not a fact that at the present time in Liverpool, according to your statement, there are 3,500 telephones worked by an earth circuit? Yes.
2078. And in London six-sevenths of the telephones are similarly worked? Yes; there is a large number worked by the earth return in London, but in Liverpool they have metallic circuits as well as the earth return.
2079. What proportion in Liverpool? I could not say exactly; but they have metallic circuits, I know, in some cases.
2080. Would it be only a very small proportion? Only a small proportion.
2081. So the general practice at the present time is to use earth circuits? The general practice where they have any interference from traction wires or other causes is to use the metallic circuit.
2082. It only becomes necessary to have a metallic circuit where electric traction or other disturbance exists? Quite so. We use the same system as they have in all other parts of Australia.
2083. *Chairman.*] Can you tell us how you make up the amount of £92,690? In the early part of the working of the telephone system we did not keep a distinct statement for it. It used all to be put down as telegraph work as well as telephone work; therefore we could not give a distinct statement of it. But the total amount for the construction of lines is £52,690, and for instruments about £40,000. That makes £92,690; but that does not include the salaries and wages of officers working the exchanges. It is merely the cost of the instruments and the wages paid in connection with the construction of the work. The cost of erection was £52,690, and the cost of telephones, switchboards, fittings, wires, and other material was £40,000.
2084. What is the estimated cost of the subway you are now putting down in Pitt-street? £30,000 has been voted.
2085. Will £30,000 pay for it? Yes, £30,000 will cover its cost; that is, the whole of the subway system.
2086. Why are you building it? Simply because the wires are so crowding the streets that we cannot put up any more poles. We must have a means of getting out, and are obliged to put it underground.
2087. You mentioned yesterday that you had ordered a certain quantity of metallic wire? A few miles of it.
2088. Why did you order that wire? For the purpose of using it at some future time, for when we put it in a tunnel it is more difficult to shift than an overhead wire. Of course we cannot use a metallic wire for a single circuit without earthing one wire. We will have to earth one wire, but I intend to use it for a single circuit and it can be adopted for a metallic circuit at some future time.
2089. When you use a subway a metallic circuit becomes pretty well a necessity? Not always.
2090. Well, on general principles, is it not so? Not necessarily so. You can use a single circuit for it as well as you can an overhead circuit. It is not an absolute necessity by any means to use a metallic circuit.
2091. Will you say whether it is generally used or not? That I could not say.
2092. You are not aware? I am not aware of any case.
2093. Still, this wire which you said you had ordered will come in for a metallic circuit some day, if necessary? It will be useful for a metallic circuit when a metallic circuit is introduced.

2094. The cable is so constructed that it will do for a metallic circuit? It will be suitable for that. Of course I am only looking ahead in doing that, as every careful electrical engineer should do.
2095. With a metallic circuit would cross-talking on telephones be done away with? Entirely.
2096. And, therefore, are we justified in believing that with a metallic circuit you would have a more efficient telephonic system than at present? You would have a most efficient and complete service.
2097. In other parts of the world where the electric tram on the trolly system is used, and where telephones are also used, in every instance, as far as you know, is a metallic circuit used? In America, where they have something like 10,000 miles under electric traction, they have a large number of metallic circuits, and they are putting in metallic circuits every day. On the continent, in some cases they have metallic circuits and in some cases they have single wires. In the United Kingdom, in many cases they are adopting metallic circuits. In Glasgow they have recently had to put in a metallic circuit, and also in Edinburgh.
2098. In other cities where there is no electric tram are they also using the metallic circuit? In other cities there are some cases where they are using a metallic circuit, and other cases where they are using the earth return circuit.
2099. The metallic circuit improves the telephonic communication always, and it becomes a necessity when you have the trolly system in connection with electric trams? Yes; it becomes an absolute necessity in order to obtain a perfect telephonic system.
2100. We have here a report from the Postal and Telegraphic Conference at Hobart, of which you were a member, dated 8th November, 1894. There is a statement here that the Joint Committee of the House of Lords and the House of Commons agreed to this finding, which has your approval as a member of the Conference:—

> That it is not, in the present state of electrical science, to the interest of the public to insist upon electrical tramways using an insulated return conductor, and that such insistence would retard the development of electric traction.

In other words, I read that in this way—that the streets are intended for traffic purposes, and you throw the obligation of protecting the telephones on the telephone management itself? That is quite right. It is only a question as to who should bear the expense.
2101. The Joint Committee of the House of Lords and the House of Commons came to the conclusion, and this Conference apparently approved of their finding, that the metallic circuit, which is a means of preventing any interference, should be provided by the telephone companies, and not by the tramway companies? But the Government, and not telephone companies, are running the telephone system here.
2102. But, on general principles, if there are two companies—one a telephone company and the other an electric tram company—in that case, with certain restrictions that are laid down by the Board of Trade, the protecting has to be done by the telephone company? Of course the Board of Trade had laid that down, but it does not follow that the Government would.
2103. That would be so, only you explain that the Government own both the telephones and the trams? Yes; and it becomes a question as to which Department should bear the expense.
2104. The Government bear it in either case? Yes.
2105. But it has been decided by the highest authorities you could have—and I presume our legal findings in this Colony would follow the findings in England and America—that the roads are primarily for traffic, and that electricity is a legitimate mode of transit? Of course that is not a question for me to decide at all.
2106. Will you grant that the roads are made for traffic, and that electric transit is a reasonable means of transit, and that, therefore, it should not be called upon to protect the telephone from what happens incidentally from legitimate transit work? That is not a question for me to admit.
2107. Is that not a fact, though? That is the decision of the House of Lords, but it is a question for the Postmaster-General to decide in this case. I will not offer an opinion on that.
2108. *Mr. Wright.*] In answer to a question put by Mr. Black, you said that if the tramways provided a metallic circuit that would not do away with the difficulty? Yes.
2109. I refer to the evidence given by Mr. Elwell;—he is asked at Question 1574—

> What would it cost to have a metallic return for the electric tram;—have you gone into an estimate for that?

His answer is—

> There is a system—the only one that I am aware of—where a metallic return is used. That is in Cincinnati, in the United States, and the effect generally is bad, because not only are there double overhead wires—that is, two wires over each line of rails—but constant accidents are happening through short circuiting of the line. Any disturbance may produce an accident, and it is in consequence of the complex nature of those overhead wires that the system has not been repeated.

So that it would appear there is considerable difficulty in providing a metallic circuit for the tramway itself? I doubt it very much. Of course Mr. Elwell has had experience of that, and I have not. I have never heard anything of the kind in Cincinnati, and I have been there myself.
2110. If Mr. Elwell is right in his reply, then the tramway could not supply a satisfactory metallic circuit of itself? I doubt it very much.
2111. Taking your own evidence, the wires along which the trolly runs, the connecting wires, the stay-wires, the rails, all being means of leakage and induction, it appears to me impossible to have anything like a metallic return? You can have a return easily. You can make a return over the rails; it only necessitates an extra wire.
2112. But would not there be leakage from extra off-shoots, the stay-wires, and from induction itself? The induction is the worst thing, not so much the leakage. It is bad, and will always be so.
2113. You are still under the impression that the tramway might itself provide a metallic circuit? It might provide a means by which the difficulty might be overcome.
2114. *Mr. Fegan.*] I notice that your evidence goes to prove that it is almost impossible to construct this tramway satisfactorily without having a metallic circuit return? Quite so.
2115. Did you ever mention to your Department the necessity of having a metallic return before this scheme was proposed? I do not think that I have mooted the question of a metallic return absolutely.
2116. But you have been of the opinion that it would necessarily follow on account of the complex system of your telephones? Of course the next ten years might necessitate it.
2117. I suppose you have complaints made by subscribers as to the constant interference with their wires, apart from North Shore? Oh, yes; such complaints as are common to all telephone exchanges, about cross-talk, &c.

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 15 April, 1896.

2118. Complaints as general as they are from North Shore? Not complaints of the same character—not caused by electric traction.
2119. But people who are subscribers to the telephone exchange, apart from the electric traction at North Shore, write to you on account of the interference with their wires? They write on account of the interference with the wires by cross-talking, and that sort of thing, but we get very few complaints of that character.
2120. Can you give the Committee an estimate of the return of the telephonic system to the Department; I mean the interest paid on the original cost? I could not give you that without looking up the matter.
2121. I suppose you could furnish it, if necessary? Yes. If the Committee wish it, I could get a statement made up.
2122. Will you do so and send it to the Secretary? Yes.
2123. I understand that it is your intention to commence laying a cable? Yes; we are going to put some cables in the tunnels when they are completed.
2124. As head of the Telegraph Department, or as an officer of the military service, in which capacity did you lay the metallic circuit on the Military Road in connection with the fortifications? Purely in my military capacity. That metallic circuit was laid because, in consequence of the great noise in the batteries from the firing of the guns, &c., it would not be possible to work the military telephone wires satisfactorily without having a metallic circuit. The noise would be terrific there during an engagement, and, therefore, to provide a complete arrangement to avoid all that and get over the difficulties in connection with it, I suggested a metallic circuit.
2125. And you, as Lieutenant-colonel of the corps of Engineers, recommended it and superintended the laying of it? Yes; and I have a very complete system there.
2126. So you have a very good idea of what will be the cost if you have to take a metallic circuit through Sydney? It is only a very small affair there.
2127. But having laid one will give you a good idea in connection with the matter? Yes; but that system is totally distinct from the Postmaster-General's Department.
2128. You think that in the course of some years—say eight or ten years—the number of subscribers will increase so much that you must have a more efficient service than you have now? It will have to be done gradually; it is a thing that cannot be done immediately. It is a very difficult matter, and it may take six years to do it.
2129. If Parliament votes the money at once? It would take fully six years to put a metallic circuit in for Sydney and suburbs with our increasing business; but it might be done in four years for the city only.
2130. But there is no doubt that the time will come when a metallic circuit will have to be made in Sydney? It may come within the next ten or fifteen years.
2131. Do you think that the telephonic communication is of greater advantage than quick transit to passengers? I should think that telephonic communication was more important to some people than quick transit. Business people would, of course, go for the telephone as the most important thing in connection with their business. Transit is a thing you can get almost all day, but you cannot get a telephone every minute through the day.
2132. According to your evidence, electric traction would interfere more in the vicinity of the tram than, say, at Waverley? Most decidedly the interference would be more in the vicinity of the tram. Of course in the outside districts it would simply be propagated by the induction that would be carried through the other wires.
2133. Do you think that the metallic circuit could be laid for less than £250,000 through the whole of the city and and suburbs? Of course that is merely an estimate; the work might be done for less, or it might cost a great deal more.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

H. Deane, Esq. 15 April, 1896.

2134. *Mr. Lee.*] Will you now read the statement which you said you would prepare, as to why the cost of the King-street to Ocean-street cable tramway was more than the estimate? I have been asked to give an explanation of the reason why the cost of the King-street to Ocean Street cable tramway was so much higher than the estimate. This subject was reported upon by me last year to the Minister for Works, and the papers in connection with it were laid on the table of the House. Most of what follows is taken from the report above mentioned. In the first place, I need scarcely point out how difficult it was to make an estimate for a work which, in the matter of grades and curves, was without its parallel in Australia, or even in the world. No detailed plans had been prepared; they would have involved considerable time and expense, and it is not usual to prepare them at that stage. However carefully, therefore, the matter might be considered, the estimates would of necessity only be approximate, and these were very difficult to make in consequence of the absence of similar experience in Sydney and the peculiar character of the work. At the time the proposal to construct this tramway was submitted to Parliament, it was assumed that all the iron and steel work and machinery might be imported. When, however, plans were ready for inviting tenders, the Minister then in power decided that all plant and materials should, so far as possible, be obtained in the Colony. From this cause alone the expenditure was very largely increased, and I have no hesitation in stating my conviction that had this Branch been free to import all material, and had the original scope of the work not been extended, the cost would have little exceeded £80,000. Alterations to mains cost £6,490. It was impossible to anticipate such an expenditure. I put down the amount of £4,000 as entirely unforeseen. Instructions were given by the Minister to provide additional engine-power and car-house accommodation for proposed extensions of the line to Rose Bay and Paddington. The estimated cost of these, namely, £20,000, was submitted and approved. The Railway Commissioners represented that a loop at the top of William-street would be required for the working of the traffic. This proposal, which was estimated to cost £2,000, was approved by the Minister, and has been carried out. The car-shed was designed to accommodate cars of a larger size than those afterwards adopted. The plan was submitted to the Railway Commissioners and approved. Had the ground plan been arranged at the first for the smaller cars a reduction could have been made. I have, however, put down nothing for this. In consequence of the instructions to order everything possible of colonial manufacture, the engines, slot beams, steel brackets, yokes, and the

H. Deane, Esq. 15 April, 1896

the ironwork for roof were more expensive. I have calculated that an additional cost of £17,529 was due to these circumstances. The foundations to the chimney-stack were unexpectedly heavy, and cost about £500 additional. The rails for the permanent-way, when the tramway was first proposed and the estimate made, were intended to be of a section obtainable in the market, and such could have been landed in Sydney for £7 per ton. On the advice of Sir John Fowler a special type of rail was about to be ordered by the Railway Commissioners for their own renewals, and they asked that similar ones should be adopted for this tramway. The quantity ordered being small, and the section perhaps difficult to roll, the price charged for these special rails in England was high, and landed in Sydney they cost nearly £12 per ton. This made a difference in the cost of the permanent-way material of £5,000. The rolling-stock, which was left to the Railway Commissioners to deal with, was estimated originally at £5,500; the actual cost has been £8,600, or £3,100 in excess, since which cost of fitting air-brakes, amounting to £1,118 2s. 5d., has been added. A sum of £3,000 was paid for the patent for the use of a principle involved in the construction of the grip, which was naturally not included in the original estimate. In order to find work for the unemployed, the Minister ordered the drawings of the roadway to be pushed on and tenders called long before the rest of the drawings were in a sufficiently advanced stage. Under ordinary circumstances this would not have been done, as, in order to save interest on capital, all the various portions of the work, roadway, buildings, and machinery should have gone on concurrently, but the Minister ordered it otherwise for the reasons above given. The cost of the tramway has been affected by this action—the construction of the works has been spread over a longer period, supervision has lasted longer, and an amount for maintenance of roadway had to be included which would otherwise not have been charged to capital. The payments to M'Sweeney for materials supplied and work done in connection with this extra maintenance amounted to £3,635 16s. 9d. In the original estimate it would appear that office expenses and supervision were left out. These amount to a large sum, namely, £7,753 18s. 1d., on account of the length of time over which the work was spread. It is certain that a proportion of this should have been covered by the original estimate, but in consequence of the time over which the work was spread, the cost has been increased by at least £1,500. To meet the request of the Park Trustees, a caretaker's cottage was erected and fencing provided at a cost of £430. This was looked upon by the Minister as fairly due, seeing that park land had been taken without any other compensation. Beyond the above amounts there is an additional but very material cause for increased expenditure which was inadvertently left out of my report last year. Had the site selected been one where æsthetic considerations had been of less importance, a much plainer and cheaper building could have been erected. A plain building to answer all the purposes of a cover would probably have been erected for £4,000 less than the actual cost. The undesirableness of having anything unsightly in so prominent a position does not require to be argued out, and it is not surprising that the trustees of the reserve and the residents of the neighbourhood interviewed the Minister with a view of obtaining a promise from him that an ornamental structure should be erected. Instructions were given accordingly, and I venture to say that the result has been successful, and considering the object in view, there has been no extravagance. The above items amount in the aggregate to £72,067, making with the estimate a total of £152,067. The total expenditure charged to the Construction Vote is £169,849 8s. 5d., which includes a sum of £12,490 3s. 6d. for land and legal expenses, leaving the net cost of construction at £157,359 4s. 11d. This shows an excess over the calculated amount above of about £5,300 only. An analysis of the items making up the sum of £72,067 for extras mentioned above, will show that of this the sum of £38,648 has been due to additions or alterations to the original scheme specially ordered, that £22,665 is due to the particular methods adopted, and which were beyond my control, that £4,500 only was due to unforeseen contingencies, and that the sum of £6,254 for office and supervision is the only part of the whole expenditure which it might be said should have been covered by the original estimate. Granted this, I would point out that it is less than the 10 per cent. allowed by the Public Works Act. For the rest of the extra expenditure I cannot be held responsible. During my trip to America I had an opportunity of comparing the Ocean-street cable tramway and power-house with many others of the most approved type, and I assert most emphatically that this line is constructed according to the best modern designs, and compares favourably with any other that I have inspected. In fact, I have seen nothing better in the whole course of my travels. There is at the power-house a reserve of from 400 to 500 additional horse-power, which will serve for an extension to Rose Bay, or for any other branch or branches in the neighbourhood which may be determined upon, to meet possible increase of traffic in the cable line itself. Had this additional power not been provided, but only the net amount for working of the line in accordance with the original proposal, a very considerable cost in engines and buildings would have been necessitated when any additional works were authorised. This further expenditure is now obviated. In consequence of the extra space available, it will now be possible, as already explained, to house the engines and generators for the George-street electric tramway. I would therefore point out that the country possesses a very good and profitable asset, and very good value for the money expended. The cable tramway is paying over 5 per cent., which is a better return than other investments made for many years past, and when the capacity of the power-house is fully utilised, as it will be some day, it may be expected to pay very much more.

2135. Have you any knowledge in your branch of the constructing of metallic return circuit lines in connection with electric traction? Yes; I know of their existence.

2136. Have you had occasion to make an estimate of the cost, per chain or per mile, of putting them in? No; it does not come within my province.

2137. That would be more in the province of Mr. Elwell, perhaps? Well, it is a matter that could be more fully reported upon by telegraph and telephone engineers, or electrical engineers in general practice.

2138. But is it not a point upon which Mr. Elwell will be able to give us some information? I think that Mr. Elwell will very likely be able to tell you something. I could easily furnish an estimate, and satisfy the Committee that it is a correct one, but I think the Committee would be better able to obtain the information from some independent source, and I do not wish to come into conflict with another civil servant. I should like to recommend that the Committee examine Mr. Callender, a member of the firm of Callender and Son, electrical engineers, London, who is at present in this city. He is an authority on electrical work, and has been frequently consulted on the subject. I have read Mr. Walker's statement, and I should like to make a few remarks upon it. In the first place, there is no doubt that the system of subways, which Mr. Walker says will be such an extraordinarily costly one, has already been initiated.

2139.

H. Deane, Esq. 15 April, 1896.

2139. That is, subways to carry the telephone wires? Yes; it was initiated before this tramway was submitted to Parliament, and the Government are practically committed to some expenditure on that account. Then, again, I understand, from my reading and from information received from electricians, that when you lay telephone wires underground you must have a metallic circuit—that you cannot work them otherwise. The Government have already ordered wire for the purpose, as Mr. Walker has told the Committee. I think that some 10 or 12 miles of this twisted cable has been ordered and the contract let for it. I have very good reason to believe that Mr. Walker's estimate for providing a metallic circuit for the telephones is far too high. It would be possible for the Committee, if they have not done so already, to obtain an exact estimate of cost for the whole telephone system in Sydney. In completing the metallic circuit it will, I understand, be necessary to alter or modify the switchboard. There will be some expense in connection with that, and there will be a second wire required if they are placed overhead, but all the present instruments, telephones, and all the apparatus otherwise will be of use. They will not have to be altered or duplicated.

2140. You say that the Committee could obtain an exact estimate of cost? I think they could.

2141. From what source? I should think Mr. Callender or Professor Threlfall would be able to give you a very fair estimate.

2142. But while you are admitting that, you are admitting the necessity for having a return circuit? I believe in the necessity for having a return circuit quite apart from the tramway. I believe that the telephonic service in Sydney will never be complete and thoroughly satisfactory until there is a metallic circuit. I think there is not a business man nor a private individual who has a telephone who does not find it excessively annoying from time to time, because he cannot get any message along the line, or instead of getting his own message along the line he hears somebody else's. It is repeatedly occurring. I have frequent difficulty in connection with my own telephone, especially in certain weathers, and even in what is apparently good weather there are serious interferences.

2143. We all know that the system does not now appear to be as perfect as it might be; but there arises this point, that, without going into the actual details of the cost of providing this telephonic metallic circuit, it will be a costly matter? It will be a costly matter.

2144. When the electric traction was suggested for George-street, how was it that this prospective large cost was not taken into consideration at that time? Because it was never considered that it was necessary to provide for it.

2145. You are on a very important point now, and if you wish to elaborate it now is the time to do so? I should like to say that in no part of the world, so far as I know, have electric-traction companies had to pay for the metallic circuits of telephone companies; the onus of it has always been put on the telephone companies, and the Joint Committee of the House of Lords and the House of Commons, which is referred to in the appendix to Mr. Walker's statement, and which was appointed to consider the question of protective clauses to be inserted in private bills relating to electric traction, decided that electric-traction companies should only be required to carry out the Board of Trade regulations, and have nothing to do with providing metallic circuits for telephone companies.

2146. But in this country both these services are performed by the Government? I know that. Therefore, whether the metallic circuit is paid for by the Works Department, or whether it is paid for by the Telegraph Department, is a matter of little importance, provided that it is necessitated by the construction of the tramway; but I should like to point out that it is not necessitated actually by the construction of the tramway—that is shown by the action of the Joint Committee of both Houses of Parliament in England. If it had been they would have laid some duties on the traction companies, but they have not done so. Although Mr. Walker says that it is not necessary, I believe he acknowledges that in London, where there is no electric-traction company at present, the Government telephones have a metallic circuit because it is better, and if it is better it is necessary, because you ought to have the thing as nearly perfect as possible.

2147. You said just now that it would make very little difference who paid the cost of providing this metallic circuit; well, if the construction of the electric tramway necessitated the expenditure of £150,000 more to complete the telephonic system, do you not think that the tramway system should be charged with a certain portion of that expenditure, because it necessitated the money being expended? If it were necessary on that account alone something should be paid by the Tramways, but I do not agree to that. I do not think that you could in any fairness charge anything to the Tramways; but if you can get the completion of the metallic circuits done for £50,000, as I believe you can, that is a very different matter from £175,000, and at the worst it is only precipitating matters, because the metallic circuit must be adopted in Sydney for the telephones sooner or later.

2148. Whether there is an electric tram or not, you say that it must come? Whether there is an electric tram or not I say it must come, and I think that I simply echo the opinions of all the best electricians in this part of the world, in Europe, in England, and in America, when I say that it must come sooner or later. They have it in London, where there is no electric traction—they cannot get on without it—therefore, all that can be said about this is that it precipitates matters, and we have to carry it out a few years sooner than it otherwise would have to be carried out. If that is the case, it only means the interest on £50,000, if 50,000 is a fair estimate of the cost. It means (say) five years' interest at 4 per cent. on £50,000, and that would be only £10,000, and that £10,000, if it is to be charged to the tramways at all, should be divided over all the tramways as they become converted to electrical traction; and if to the cost of making the George-street tramway you add the cost of conversion, that bringing the amount up to (say) £500,000, you would only have to charge one-quarter of that to the George-street tramway, viz., £2,600. If there is any difficulty about voting that money, let it come out of the tramways, but no more should be charged.

2149. If it can be shown that in addition to having this metallic circuit for the telephone system it will also be necessary to have a complete metallic circuit for the tramway system as well—if it can be shown that both are necessary for insulation, or that the return of the electricity in connection with the traction must be equal to that in connection with the telephone to make those services complete, will that not add a certain amount to the cost of construction? But you cannot show that. What we shall do here is simply to make it as good as the Board of Trade regulations require in England.

2150. That will be by bonding the rails? Efficient bonding. You cannot make it equal to the other without insulation, and you cannot insulate the return.

H. Deane, Esq. 15 April, 1896.

2151. I am aware that your proposal is to so completely bond the rails as to make the return as perfect under those conditions as you can; but supposing after that has been done that great disturbance is caused to the telephonic wires, you will see that to provide a circuit for the telephonic wires will take at least five or six years;—what is to be done by the commercial class in the meantime with this telephonic disturbance? I should say that before the George-street tramway can run the Electric Telegraph Department can alter all the wires that will be affected by it; I think there will be ample time to do that.
2152. I will conclude for to-day by asking you whether you are prepared to take the responsibility of a letter which has been sent to the Committee signed by Mr. Elwell, the Electrical Engineer, in which he says:—

It having been brought under the notice of the Commissioners that certain statements appear in the *Sydney Morning Herald* of this date as having been given in evidence upon the proposed George and Harris Streets tramway by Mr. P. B. Walker, Secretary, Telegraph Service, to the effect that serious interference would be caused to the telegraph or telephone systems by the currents in the electric tramway wires, the Commissioners desire me to inform you that no such interference can occur except as a result of imperfect construction or maintenance of the electrical portion of the tramway plant, and that they would, consequently, take the responsibility of neutralising any such interference that might occur.

Will you accept the responsibility of that? No; it is not necessary.
2153. *Chairman.*] You refuse to accept that responsibility? I do not know why I should be asked to accept the responsibility.
2154. *Mr. Lee.*] You refuse, on the ground that all you can be held responsible for will be the proper construction and maintenance of the line? I have done more than that, if you will allow me to say so. I have endeavoured to point out that, in my opinion, the telephone system should have a metallic circuit applied to it, independently of the tramway, but that if it is reckoned that the tramways should be made at all responsible for this work there would only be a few thousand pounds to pay as their part of the cost; but as for undertaking any responsibility, in the case of there being any interference, to pay away £175,000 or £250,000 or £500,000, I absolutely decline.
2155. The electrical branch of the profession is really outside your office; the disturbance with the telephone system is nothing with which you have anything to do—a matter you could not properly be charged with? I do not consider we should be charged with it.
2156. Therefore, you could not be responsible for an undertaking of the character in question? No.

THURSDAY, 16 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	George Black, Esq.

Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

James Ormiston Callender, Esq., Consulting Electrical Engineer, sworn, and examined:—

J. O. Callender, Esq. 16 April, 1896.

2157. *Chairman.*] What are you? I am a consulting electrical engineer, carrying on business in Sydney.
2158. What has been your experience? I have had sixteen years' practical experience in electrical engineering, chiefly in England, but for a short time in America. During the last five years I have been in Australia. I served my time in the shops of the Callender Cable Co., and afterwards in the testing-room of the company. Before that, I was manager of their outside works, and afterwards of their works in England, and later in New York.
2159. Did you carry out any work in England? No.
2160. Have you carried out any work here? I am now carrying out a large electric lighting contract in Queensland, and I hope to carry out another in Narrabri. I have done other electrical work in the Colony. For the first three years of my stay here I acted as agent for my firm; but during the last two years I have been doing purely consulting work.
2161. You have read the statement made to the Committee by Mr. P. B. Walker? Yes.
2162. Have you prepared another statement criticising it? Yes. It is as follows:—

After a careful perusal of Mr. Walker's statement on the subject of interference with the telephone system, I believe that Mr. Walker's evidence is, in the main, correct—that is, to the extent of saying that the adoption of the overhead trolley system of electric tramways, as now proposed by the Railway Commissioners, will involve the alteration of the telephone system in Sydney from a single-wire system, with earth return, to a system of complete metallic returns.

It would be possible to adopt the metallic return system on the lines affected by the proposed tramway, leaving the rest of the system as at present; but this would lead to certain difficulties in working the Exchange, and would cause delays in operating. Such a combination has been tried, but has not given completely satisfactory results. It is open to question whether this system would entirely do away with the disturbance caused by tramways—it certainly reduces it to a minimum, but, as far as present experience goes, does not entirely obviate it.

It may, therefore, be taken as an assured fact that the use of an electric tramway, with uninsulated return, will seriously disturb telephonic communication unless the telephones are connected on a closed metallic circuit.

This question was completely threshed out by the Joint Committee of the Houses of Lords and Commons in 1893, when both telephone and traction interests were fully represented, and the recommendation of that Committee was as follows:—"That it is not in the present state of electrical science to the interests of the public, to insist upon electrical tramways using an insulated return conductor, and that such insistance would retard the development of electric traction."

This decision, which was endorsed by Mr. Walker in the second Report of the Committee of the Postal Conference in 1894 (8 November), throws the responsibility of protecting telephone lines on the telephone companies, while at the same time very stringent regulations were drafted, making it obligatory on the tramway companies to take all possible precautions in the way of proper bonding of rails and insulation of overhead conductors. Any company, however, having observed these conditions is assumed to have used every possible means to prevent disturbance of telephone lines, and if such disturbance should still exist, the onus of counteracting it falls on the telephone companies.

The reason of this decision was that there existed then and now exist no practical means by which electric trams could be worked, other than the overhead trolley system, with uninsulated return, whereas the telephone companies can admittedly eliminate all disturbance by the use of metallic circuits; and, further, it was admitted that the use of such metallic circuits would materially improve the general working of a telephone system.

J. O. Callender, Esq.

16 April, 1896.

The Telephone Department in New South Wales has had the question of metallic circuits under their notice for several years back, and in 1894 manufacturers of cables were asked to obtain samples of suitable cables for such work.

In 1895 the Department commenced the construction of subways for telephone and telegraph wires, and up to date a large sum, about £30,000, has been expended on these subways. By this step the Department have committed themselves to the adoption of metallic circuits, as it is a well-known fact that underground wires cannot be used successfully on a telephone system except in conjunction with metallic returns. This is borne out by the fact that wherever underground wires are used for telephonic communication on a large scale in any part of the world, metallic circuits are invariably adopted.

The Telephone Department appear to have realised this, as they have recently placed an order for 12 miles of 48-conductor cable, made up in twenty-four pairs for metallic circuits. Such a cable will be practically useless unless a system of metallic circuits is adopted.

Thus, if the Department intend to use the new subways, they must employ metallic circuits; if they do not so intend, why were the subways built?

Dealing next with Mr. Walker's estimate of the cost of conversion of the existing system to a system of metallic returns, I find by Mr. Walker's statement that the total cost of the present exchange system has been £92,690 up to date, but that he estimates the cost of conversion at the enormous sum of £175,000 for the city, and £250,000 if the suburbs are included.

These figures appear incredible in view of the fact that the cost of converting the whole of the telephone system of London, embracing thirty exchanges and covering an area of 600 square miles, was, in 1894, estimated at £200,000. I have not had an opportunity of seeing the figures on which Mr. Walker bases his estimate, but have no hesitation in saying that the cost has been enormously over-estimated.

The chief work necessary for the conversion consists of the duplication of all wires. This will involve a certain number of new poles in addition to those at present erected. Of course the new subway now being completed will be utilised to carry all trunk wires, and thus relieve the main streets of a great number of wires.

There are, I understand, about 3,100 miles of telephone wires in Sydney and suburbs—2,000 of which are in the city. The whole of this wire could be duplicated at a cost of certainly not more than £10 per mile, making a total of £31,000, and the alterations to switchboard at the Exchange might bring the cost up to £40,000.

In confirmation of these figures—cable has recently been ordered for telephone work at a price under £3 10s. per wire per mile—the actual price being £150 per mile for 48-conductor cable.

If the work of conversion were vigorously pushed on with, I estimate that the entire conversion could be completed in about two years.

2163. Will you now take the statement which Mr. Walker has sent to the Committee this afternoon, and go through the items it contains, pointing out where you think he is in error? The first item in Mr. Walker's estimate is as follows:—

12,900 poles, averaging 40 feet in height, but many would be 46 feet and 50 feet, averaging at £10 each—£129,000.

A little earlier in his statement he has pointed out that there are at present in the city and suburbs 6,450 poles, and, as he estimates to require 12,900 poles to enable him to duplicate the existing wires, I presume he intends to discard the existing poles, though for what reason I cannot understand. It is true that in George-street and Pitt-street the poles are overloaded, but the Department have constructed a subway with the view of relieving these poles; the intention being, I understand, to remove all the trunk wires in George-street and Pitt-street from the poles, and to place them in the subways. I cannot see why more than 6,000 poles could possibly be required in the event of the duplication of the existing lines. The only poles overloaded are those in the busy parts of the city—in George, Pitt, and King Streets. Most of the rest of the poles could easily bear the weight of duplicating wires. Mr. Walker, however, assumes that it will be necessary to triplicate the poles. It must be common knowledge to members of the Committee that as soon as one gets out of the city proper, the poles only carry one or two or three wires each, and in those places could easily bear the duplication. There may be isolated cases where it would be necessary to duplicate the poles, but generally it would not be necessary. Then, in regard to the height of the poles, it will only be necessary to have a few 46-feet and 50-feet poles in the city, and, in my opinion, the use of the subways will relieve the existing poles so much that they will be able to do the work. That the poles required throughout will average 40 feet in height is impossible. The poles in the suburbs are certainly not 40 feet high. Their average height would be more nearly 25 feet, and such poles can be obtained from St. Mary's at 10s. per pole, delivered in Sydney.

2164. What would a pole cost to erect? Not more than £1, allowing for the painting. I do not dispute Mr. Walker's figures in regard to 46-feet poles, but I can get 25-feet poles delivered at the railway siding, Sydney, from St. Mary's, at 7s. 6d. each, dressed and charred at the feet. I am speaking with absolute certainty, because of tenders I had to get in connection with certain electric lighting work in the city.

2165. Could you erect these poles for another £1? Without the slightest doubt.

2166. *Mr. Wright.*] Including the cost of the arms and insulators? No; but I could erect the poles for £1.

2167. *Mr. Humphery.*] What would a pole cost, everything included? An average suburban pole does not carry more than from four to six cross-arms.

2168. *Mr. Wright.*] Take the average as five? Including insulators and everything, such a pole could be erected for £2. Mr. Walker's estimate of £10 each does not include the cost of insulators. The next item in his statement is—

3,150 miles of wire, including labour, erection, &c., £79,600.

That means about £25 per mile of wire. The wire used by the Telephone Department here is a galvanised wire—I think No. 12, but it may be a little larger. The Telegraph Department gets its wire for telegraphic purposes—and this wire is approximately the same size as the telephone wire—erected at about £4 16s. per mile. That is the cost of supplying the wire and of erecting it. The contracts are taken with great regularity at prices approximating £4 16s. a mile. I am absolutely at a loss to understand why Mr. Walker estimates the cost of similar wire at £25 per mile.

2169. *Chairman.*] You know that the wire which Mr. Walker estimates to cost £25 per mile is tendered for at £4 16s. per mile? Yes.

2170. You are making no mistake about this? No.

2171. Would you take a contract at that price? I should be delighted. The railway contracts for telegraph work are taken at about £4 16s. a mile. I admit that there is a certain amount of extra expense in city and suburban work; but I see nothing to justify the difference between £4 16s. and £25 per mile.

2172. Would £5 a mile be a full estimate for city work? I would estimate it at £10 including the additional poles required.

2173. Would £5 cover the cost of the wire and of placing it? I think so.

2174. That is in the city? Yes.

J. O. Callender, Esq.

16 April, 1896.

2175. You are speaking with the knowledge of that fact? Yes. The next item is—

Additional wiring required to provide for metallic circuits, 100 miles 25-core cable for repairs, emergencies, &c., £15,000.

I do not know what that means. Twenty-five core cable is no good for a metallic circuit; such cable must be made up in pairs. The core should be twenty-four or twenty-six. The next item is—

50 tons hard drawn copper wire, at £70 per ton, £3,500.

I presume that Mr. Walker means to substitute that wire for the iron wire at present in use, because he has already 3,150 miles of wire. If the existing wires are suitable for present requirements, they will necessarily be suitable if a metallic circuit is adopted. I am quite willing to accept Mr. Walker's statement that a great deal of the present wire is in an unsatisfactory condition, and may require renewal; but I do not see that that meets the present case.

2176. *Mr. Black.*] How many miles of copper wire are there in 50 tons? That depends upon the thickness of the wire. If No. 12 wire were used, the weight would be about 170 lb. to the mile, or 14 miles to the ton. Therefore, in 50 tons there would be 700 miles. Mr. Walker puts down £5,000 for unforeseen expenses. Upon that item I have no opinion. He also puts down £20,000 for a complete metallic multiple switchboard for 3,500 numbers. If it were necessary to put in a new switchboard and abandon the present one it would cost approximately that amount; but, speaking as an engineer, I say that it would not be a difficult matter—it would not be a matter that has not been done before, or that presents any great difficulty—to convert the present switchboard for use with a metallic circuit. The arrangement would involve a certain amount of complication and delay and interruption to traffic, but I am certain that the switchboard could be converted, and at a relatively small cost.

2177. *Chairman.*] The present switchboard can be converted, and, therefore, no new switchboard will be required? No; no new switchboard will be required.

2178. How would they work the telephone system during the conversion? The conversion would involve a certain amount of interruption, but under any circumstances, with a big system like ours, a certain amount of interruption would be inevitable. Further on in his statement Mr. Walker says:—

It is asserted by Mr. Deane that the alterations can be made for a metallic circuit for £50,000; this I entirely disagree with, because in the first place it will cost £20,000 for a multiple metallic switchboard, and if Mr. Deane can provide for the whole of the telephone, city and suburbs, now extant for the balance (£30,000) of his estimate, all I can say is that he would accomplish a feat unparalleled in the history of engineering.

Mr. Deane will only accomplish what has been done in a great many places. The conversion of the system in London did not cost more than £200,000.

2179. Has the conversion been made in London? Yes; the work was started about the end of 1893 and has been gone on with gradually ever since.

2180. *Mr. Humphery.*] By the National Telephone Company? Yes; up to the end of 1894 it had cost £100,000, and the whole work was estimated to cost £200,000.

2181. *Mr. Hassall.*] What are you doing now? I am a consulting electrical engineer on my own account entirely.

2182. Why did you desire to come here and give evidence? I saw Mr. Walker's statement, and I afterwards met Mr. Ewing and discussed the matter with him.

2183. You first say that Mr. Walker's evidence is in the main correct, and then you discuss it and say that you cannot understand it? I cannot understand his second statement. When I say that Mr. Walker's evidence is correct, I mean that it is correct in the main contention that the construction of the proposed electric tramway will involve the use of metallic circuits. On that point I fully agree with Mr. Walker.

2184. You agree with Mr. Walker that the overhead trolly system will to a great extent interfere with the telephone system? I do.

2185. And that some steps will have to be taken to obviate the difficulty? I do.

2186. What steps? I consider that the complete alteration of the telephone system from an earth return system to a metallic return system is necessary. Such a system is not only the most efficient but the only system by which the difficulty can be completely counteracted.

2187. But you doubt if such an alteration will remove all objections? If the metallic system is only partially adopted, the result may be unsatisfactory, but with the adoption of a complete system there could be no further difficulty.

2188. You say that the Telephone Department has had the question of metallic circuits under its notice, but has not operated on it yet? It may have adopted the system in one or two isolated cases, but I believe not.

2189. You say that metallic circuits are invariably adopted where subways are used? Yes.

2190. And that in using subways here we shall have to adopt them? Quite so.

2191. If the electric tramway is constructed the Department must of necessity adopt the system? Yes.

2192. Will its adoption necessitate a very large expenditure? Yes.

2193. But you challenge Mr. Walker's estimate of the cost? Yes.

2194. Do you think that he is not in a position to make a fairly correct estimate, considering the experience that he has had in the Department? It is hardly a fair question to ask me my opinion of Mr. Walker's abilities.

2195. It is startling to me to hear that you can get telegraph poles 25 ft. high delivered in Sydney for 7s. 6d., and erected for £1 each? I speak from personal knowledge.

2196. *Chairman.*] Can you satisfy the Committee upon the point? I can lay before the Committee a tender in which that price is offered.

2197. *Mr. Hassall.*] Have you had any experience of electric tramways? Yes; in England and in the United States.

2198. In what part of the United States? In the States there is practically only one system in use, and it is that system which it is proposed to adopt here. Cincinnati was the only city which at the time of my visit to America had any other system. The system proposed to be used here is practically universal in the United States, and may be described as an American system. It originated in the United States.

2199. Are you not aware that there are three systems in use in the United States to a fairly large extent? No.

J. O. Callender, Esq.

16 April, 1896.

2200. The overhead system, the accumulator system, and the conduit system? I know that there are many places where the conduit system has been tried. Such a tramway is being worked in Washington, and in a small way in Chicago; but in neither place can the system be pronounced a perfect success.
2201. Do you know any place where such a system can be pronounced successful; Yes; but only one—Buda-Pesth. There they have a conduit system over 3 miles in length which has been entirely successful. It involved a heavy outlay of capital at the start, and the conduit, instead of being in the middle of the track, where it is usually placed in cable systems, is under a side rail, with two conductors passing inside it and a collector.
2202. The main objection to that system is the expense of constructing the line? That is the first objection; but the main objection is the difficulty of drainage. The conditions at Buda-Pesth are favourable.
2203. Would they be more favourable there than here? I think that here they would be very unfavourable. The rainfall in Sydney is very heavy while it lasts, and there would be great difficulty in designing a mode of draining the conduit whereby rain water could be carried off before it reached the electric wires. I have seen the Ocean-street tramway conduit full and overflowing. I have seen that in King-street where the roadway dips, and just beyond the terminus at Ocean-street at the top of the hill. The wash of mud and water coming down Ocean-street completely filled the conduit.
2204. Have you had any experience of the accumulator system? Yes.
2205. Are there any strong objections to that system? I have been an advocate of accumulator traction to a certain extent; but in a busy town where the traffic is heavy the cost per mile is so great as to make it almost prohibitive. The accumulator system will run satisfactorily and give excellent results; but at a cost certainly 50 per cent. higher than that of the trolly car system.
2206. But there would be no interference with the telephones? That is so.
2207. Then the question arises whether it would be well to adopt the accumulator system in order to avoid the expense of altering the telephone system? I am not prepared to say that the first cost of the accumulator system would not very largely exceed the cost of an overhead trolly system, and that it would not exceed it by more than the cost of altering the telephone system. The cost of running the system per car mile, however, would greatly exceed the cost of running the overhead system.
2208. Can you give the Committee any idea as to the difference in cost between the cable and electric systems? Well, it depends so much upon the number of curves in the street.
2209. If the necessary space could be obtained for a power-house near the Railway Station, do you not think that the route of the proposed electric tramway would be a very good route for a cable tramway? Undoubtedly.
2210. Do you think that an electric tramway would be preferable to a cable tramway? Yes. I understand that this electric tramway is to form part of an electric system for the whole of Sydney.
2211. We do not know that. We are merely considering the advisableness of constructing a tramway from the Circular Quay to Harris-street? The route from the Circular Quay to the Railway Station would be a very favourable one for a cable tramway, because the traffic there is exceedingly heavy, and the street very straight. Along Harris-street, however, I think the traffic would be light, and in that case it might not pay to use the cable. A cable tramway can only pay where the population is dense and the traffic very heavy, the cars running at short intervals.
2212. Why is that? The initial expense of moving the cable forms such a large portion of the whole expense. As soon as a cable is moving, all the standing expenses are practically the same, whether there is one car being used or twenty.
2213. Cable tramways have been proved to be very successful where the traffic is heavy? Certainly.
2214. Do you think the cable system would possess any advantage over the electric system in George-street? No. On the other hand, I think that there would be certain disadvantages connected with it.
2215. Do you advocate the overhead system? Yes.
2216. Have you any knowledge of the compressed air system? I know the compressed air system only as a rival to electric systems. I have seen it in Paris, but I do not think that it is used to any large extent there, and I do not know any other places where it is used. It has been before the world for the last twenty years, and has made no headway. I know of no place in the United States or in England where it is used, and of no place in Europe except Paris. In Paris the trams are run partly by accumulators, partly by steam, and to a very large extent by horse traction. Judging from Mr. Selfe's evidence, the compressed air line has been extended since I saw it. I remember that the system was tried in Birmingham and abandoned.
2217. Do you know whether the system tried in Paris is successful? I know the Victor Popp system in Paris, but there the compressed air is used chiefly for motor purposes. I do know of it being used for traction purposes. The company has been extremely successful, and distributes compresed air just as the hydraulic company here distributes compressed water. In Paris they drive about 20,000 clocks by compressed air.
2218. Do you not think that the accumulator system might have been more in vogue in America if it had not been for the vested interests in the overhead system? I have no doubt that the vested interests in the overhead system have been detrimental to its success, but in England it has had a very fair trial. In Birmingham it has been tried on a large scale, and, I am sorry to add, with very unsatisfactory results.
2219. Was the system initiated in Birmingham by a company? Yes; by the Birmingham Tramways Company who control almost all the tramways in Birmingham. That company run part of their trams by horses, part by cable, and part by means of accumulators. They have made very strong efforts to introduce the overhead system, but the municipality will not allow them to erect the necessary poles.
2220. I presume that they wish to adopt the overhead system in order to obtain larger dividends? Undoubtedly.
2221. It was not that they had any objection to the accumulator system? I presume not, judging by the liberal treatment which they have given it. But the accumulator system involves the carriage of a large amount of dead weight. I gave the matter of accumulator traction very close attention about a year ago in connection with a proposal to run about twenty cars here.
2222. At that time the cost of material was very much higher than it is now? I do not think that the cost of the cells has been reduced by more than 5 per cent. since that time. Just before the time I am speaking of there was a reduction of about 15 per cent.

J. O. Callender, Esq.
16 April, 1896.

2223. But could not the system be adopted more cheaply now than it could have been three years ago? A little more cheaply; but while the cost of batteries might be a little less than it was, the cost of dynamos has increased 10 per cent. The whole of the English manufacturers have raised their prices 10 per cent.
2224. I understand that there has been a great reduction in the price of chloride cells, and that they are now constructed on a principle which makes them more lasting? I am not aware of that.
2225. *Mr. Fegan.*] Do you represent any company? No.
2226. I understand from you that the necessity of adopting the metallic return system was under the consideration of the Postal Department here in 1894;—have you any proof of that? In 1894 I was agent for the Callender Cable Company, and I was asked by Mr. Walker, who was then considering the question of metallic circuits, to obtain samples of the cable required for the purpose. Then, again, in 1893 and 1894 I was a member of the Postal Conference which sat in Sydney and Melbourne to draft rules and regulations for the erection of overhead wires, and when the question of metallic circuits came up, both Mr. Todd, of Adelaide, and Mr. Walker expressed themselves as convinced that it was only a question of a very short time when they must adopt metallic circuits.
2227. Do you know of any city in the world where, although they have no electric traction, they have altered their telephone system to the metallic return system? Well, I might instance London. There they have no electric railway except the South London line, which is underground. In connection with this matter, I would like to read to you the summary report of a Joint Committee of the House of Lords and the House of Commons which is contained in the *Electrician* of July 21, 1893.
2228. Strides have been made in the science of electricity since then? Undoubtedly.
2229. Up to that time there were very few electric trams in England? Practically none.
2230. Because they could not overcome the obstacles that then presented themselves? Their position with regard to any disturbance they might cause to telephone wires had not been defined, and they were uncertain what their liability was.
2231. Were there any scientific men on the Committee you speak of? No. But the Committee took the evidence of Sir Courtenay Boyle, K.C.B., Mr. Preece, Engineer-in-Chief and Electrician to the Post Office, Major Cardew, Electrical Adviser to the Board of Trade, and the Astronomer Royal. Counsel appeared before them on behalf of the National Telephone Company, the railway companies, various tramway companies, and the Postmaster-General was also represented, but not by counsel. The Committee agreed to the following resolutions in the nature of recommendations:—

1. The Committee, having regard to the evidence before them, are of opinion that it is not, in the present state of electrical science, to the interest of the public to insist upon electrical tramways using an insulated return conductor, and that such insistence would retard the development of electric traction.
2. The chief objections which have been urged before the Committee to an insulated return conductor are—first, the interference by leakage and induction with telephones; secondly, the interference by leakage and induction with railway signals; thirdly, the damage to systems of gas and water pipes by the action of leakage currents.
3. They are of opinion that the best known means of overcoming the first of these disturbances is by providing an insulated return conductor for the telephones, and they have the less hesitation in recommending this course, as the evidence shows that telephone construction is already tending in this direction, and that better results are secured to the public by the use of a twisted metallic circuit insulated entirely from the earth.
4. The second objection deserves serious consideration on account of the danger to the public; but the Committee are of opinion that the disturbance may be remedied at a comparatively small expense by the adoption of an insulated metallic return by the railway companies.
5. They consider that although electric tramways and electric railway companies should be allowed to use the wheels of carriages and the rails to complete the electric circuit, the currents should be produced and used in such a manner as to mitigate as far as is possible any injurious effect to telephone communication.
6. The Committee are of opinion that it is desirable in every way to facilitate the use of complete insulated metallic circuits for telephones, and for this end they recommend that statutory powers be granted enabling telephone undertakers to lay their wires underground.
7. The danger from fusion or electrolytic action appears to the Committee to have arisen from a faulty system of constructing electric tramways; and they are of opinion that it can be reduced by improved methods of construction so as to be practically negligible.
8. The Committee therefore recommend that the Board of Trade shall, in virtue of the powers to be conferred upon them by each Act or Order, make regulations to secure the best system of working electric tramways and railways, having regard to the expense involved in the carrying out of such regulations, and to the effect thereof upon the commercial prospects of the undertaking. The regulations to provide, *inter alia*:—
(*a*) That a return conductor, if in contact with the ground, shall be of such secretion and resistance as to have no difference of potential sufficient to set up injurious leakage currents in the earth.
(*b*) That, both with regard to the structure of the line and to the method of generation and use of the electrical current, everything shall be maintained up to the standard of the Board of Trade; but if the regulations are altered after the use of the electric power on the line has been sanctioned, the undertakers shall not be required to alter the structure or method of working the line to conform to the more recent regulations except for the public safety, or unless it shall be proved to the satisfaction of the Board of Trade that any system of metallic pipes or structures is being injured by the action of electricity escaping from the conductors, or for purposes other than public safety or injury to pipes or structures which the Board of Trade may think right, provided that the alterations do not in such last case cause substantial additional expenditure.
(*c*) That all such electrical tests shall be applied to the line by the undertakers as the Board of Trade may think necessary, and that a record of these tests shall be kept for the information of the Board of Trade.
(*d*) That the Board of Trade shall have all reasonable facilities for making any tests they may think necessary, in addition to those recorded by the undertakers, to enable them to ensure the maintenance of satisfactory conditions.
(9.) That the Committee regards with apprehension a large extension of the system of overhead wires in crowded centres.
(10.) It appears to the Committee to be just that undertakers proposing to use large currents should be required to give ample notice to those using small currents to enable them to protect themselves by insulation, and that with this view, and in reference to the clause agreed upon, a period of two years may fairly be allowed to telephone and telegraph companies from the date of passing any Act.

2232. You differ with Mr. Walker as to the cost of providing metallic circuits for the telephones;—you do not differ with him as to the necessity for the expenditure? No. There I probably go further than he does. I think that the metallic return system will be absolutely necessary, even if an electric tramway is not constructed; such a system becomes necessary directly you get a large number of telephones. It must be within the knowledge of gentlemen here that our telephone system has deteriorated during the last five years. The cross-talk has very much increased.
2233. Metallic circuits would remedy that? Certainly. There would then be no cross-talk.
2234. You say that the cost of providing metallic circuits would be about £30,000, while Mr. Walker says that it would be about £250,000;—that is an immense difference? It is; but in support of what

J. O. Callender, Esq. 16 April, 1896.

I have said may I quote from an article upon the National Telephone Co's. new exchange which appeared in the *Electrical Review* of the 23rd November, 1894:

The metropolitan system of the company consists of thirty exchanges, all joined together by junction wires to form one whole. Of these, ten exchanges are now working on the double-wire principle, and the remaining exchanges are being actively reconstructed and new and improved switchboards provided. It is expected that the whole metropolitan area, which covers upwards of 600 square miles, will, at a comparatively early date, be working on the metallic circuit principle, with new and most improved plant, and that when this work is completed London will be provided with a telephone system equal if not superior to that of any great city in the world. The cost to the company of this great work will probably be not far short of £200,000.

There they have thirty exchanges and close upon 20,000 subscribers.

2235. Do you know of any other cities which have changed their telephone system to the metallic circuit system? Yes; New York, Boston, and Chicago.

2236. Was that change brought about by the introduction of electric tramways? No. New York had no electric tramways when the change was made.

2237. Why did these cities adopt metallic circuits? In order to improve their telephone service. It was found practically impossible to continue working their large exchanges with it. I may add that an adjacent telegraph wire causes quite as serious a disturbance to a telephone wire as a tramway wire does.

2238. But the tramway wires do not interfere with the telegraph wires? No.

2239. *Chairman.*] Where telegraph and telephone wires run parallel, the interference of the telegraph wires with the telephone wires is very material? It is very serious indeed.

2240. Are not these wires running together in the streets now? Wherever they are running together the interruption is very serious.

2241. *Mr. Wright.*] Are they not running side by side now in every city in the world? No; they are not. I do not know where the telegraph lines are in Sydney; but if they are alongside the telephone wires, that helps to account for a good deal of the disturbance that now exists. In the city of London the telegraph wires are underground in iron-pipes, and the telephone wires run over the tops of the houses in all directions. I had occasion to speak to Hudson Bros., at Clyde, recently, but I could not get any communication at all owing to interruption by telegraph wires. I made inquiry about the matter, and they told me it was a constant thing. For a large part of the day the line is useless to them, because of the interruption caused by the telegraph wires.

2242. *Mr. Fegan.*] Have you with you the opinion of any scientists as to the necessity for metallic circuits? The matter has not been brought up since a conference which was held in England. I do not know whether the opinion of Mr. Edison will carry weight, but this is some evidence that he gave upon the question:—

In your opinion as an expert upon telephoning, is the grounded telephone the best system available to the telephone service, and if so, why, and if not, why? No; the best service is the metallic circuit method, not using the earth as a return; this prevents induction and interference of other wires, but is not universally used on account of the fact that the expense for wire is double, although it is used in Paris entirely.

Can the telephone hope to escape interference from natural or artificial electrical currents in the earth so long as it uses the grounded circuit? No; the telephone suffers more from its own self more than anything else I know of; what is said on one wire under certain conditions is heard on half a dozen other wires; the metallic circuit obviates this, and prevents what they call cross-talk.

2243. Do you mean that every complete telephonic service must have a metallic return? Yes.

2244. Do you think that Mr. Walker's evidence should deter us from recommending the electric tramway? I do not. I think that Mr. Walker has over-estimated the cost of altering the telephone system; but in any case the Telephone Department must adopt metallic circuits within a short time. By constructing conduits they have expressed their intention of doing so, because the subways will be useless if they do not adopt metallic circuits. The fact of their constructing subways shows that they have a *bona fide* intention to use metallic circuits, and that is further instanced by their purchasing cable of which only half the wires can be used with an ordinary system.

2245. Did you ever see a city of the magnitude of Sydney so poorly provided with means of transit? No.

2246. You think there is great necessity for providing better means of transit? Undoubtedly.

2247. In your opinion electric tramways are the best and most modern means of transit? Yes.

2248. And they are the most economical? Yes.

2249. The electric system is superior to the compressed-air system and to the cable, taking it as a whole? Yes.

2250. And of electric systems the overhead system is better than either the conduit or the accumulator system? Yes.

2251. In semi-tropical climates like this the conduit system becomes almost impossible? Purely from mechanical conditions; not from electrical conditions.

2252. In Buda Pesth the rain does not fall in torrents as it does here? No.

2253. *Mr. Wright.*] Have you been in Buda Pesth? No.

2254. Do you know its latitude? No.

2255. Do you know anything about its rainfall? I do not know what the yearly rainfall is there.

2256. Could you get a city more favourable for drainage than Sydney? I am not intimately acquainted with the drainage of Sydney.

2257. Is not Sydney naturally drained in almost every direction? Perhaps it is. I am strongly in favour of the conduit system if any means can be found of keeping the conduit clear from water.

2258. If a perfect system of drainage could be obtained, you think the conduit system would be the best? I think it is the ideal system.

2259. It is better than the overhead trolly system? Irrespective of the question of first cost, because the construction of the conduit is enormously expensive.

2260. Is not the expenditure reduced by using a conduit such as they have on the Ocean-street tramway? The conduit necessary would be similar to that on the Ocean-street tramway, and cost approximately the same.

2261. I understood you to say just now that poles 46 and 50 feet high could be obtained in Sydney for £1 each? No. I said that 25-ft. poles could be obtained at that price. I do not dispute Mr. Walker's estimate in regard to the price of 50-ft. poles.

2262. You are quite clear that you can have delivered in Sydney, dressed and charred, 25-ft. poles at 7s. 6d.? I am clear on the point.

2263. Have you ever bought them at that price? Yes; with a minimum of five inches diameter at the top.

J. O. Callender, Esq.
16 April, 1896.

2264. Am I right in saying that you estimate that 3,150 miles of wire would cost £31,000? Yes.
2265. How do you reconcile that with the statement that you are prepared to erect and find the wire at a little over £4 per mile? In the estimate of £4 a mile I have included the cost of additional poles should they be required.
2266. Then your first estimate was largely exaggerated? My estimate is an ample one to completely cover the cost. I said that £4 16s. is what the Telegraph Department pay per mile for the erection of telegraph lines, and I admitted that that cost would be increased in laying wires in the city.
2267. Will you kindly look at the evidence of Mr. W. E. I. Gaine, General Manager of the National Telephone Co., and of Mr. D. Sinclair, Engineer-in-Chief of that Company. Mr. Sinclair says that if they had to metallicise the 3,500 telephone wires in Liverpool the standards carrying the present wires would not be sufficient, and it would mean the sweeping down of the present system and the building up of a new system to carry twice as many wires? Mr. Sinclair's evidence was shown to be incorrect.
2268. Then he is not an authority? Yes. But he was a prejudiced party, and was making out as strong a case as he could for his company.
2269. Was Lord Kelvin a prejudiced party? No.
2270. You have said that telegraph wires create quite as much disturbance to telephone wires as electric tramway wires do; but this is Lord Kelvin's statement, that at Leeds "the disturbances were very severe, and the starting and the stopping of the tramcars could be heard perfectly. There was a humming sound, which he believed was due to the dynamo." The telegraph services in Sydney make no such disturbances as that? You might not be able to distinguish the telegraph disturbance, but I know that I have frequently had my conversation interrupted by telegraph disturbance.
2271. Do you insist that these representatives of the National Telephone Co. do not understand their profession, and that you do? Well, they were special pleaders.
2272. They were sworn witnesses? Well, subsequent facts have shown their evidence to be incorrect.
2273. At Liverpool have they now a metallic circuit? I believe so; but I am not in possession of definite information.
2274. Is there more than one telephone company in London? There is a new company which started out with metallic circuits.
2275. Has the National Telephone Co. converted its entire system? Yes.
2276. Is there not a Government system in London? The Government have their own private telephones, and have never used anything but metallic circuits.
2277. I understand that a metallic circuit gives perfect privacy? Yes.
2278. You say that the construction of tunnels by the Telegraph Department here is *prima facie* evidence that they intend to adopt metallic circuits. Will you adhere to that statement if Mr. Walker has distinctly sworn that he had no such intention? I say that the tunnels would be absolutely useless if there were no such intention, and I should say that it showed great incompetence on the part of Mr. Walker to have them constructed.
2279. But if Mr. Walker has sworn that would you believe him? I must accept his sworn statement.
2280. If he states that the wires are to be put in tunnels because the poles are at present overloaded, and that there is an increased demand for telephonic communication, would you believe his statement? I accept his statement.
2281. If he states that there is no difficulty about using these tunnels with an earth return system? Then I must dispute his opinion.
2282. *Chairman.*] You say that you cannot use a tunnel without adopting metallic circuits? I say that it is impossible to use underground wires to any large extent without adopting metallic circuits.
2283. *Mr. Wright.*] Did you investigate the accumulator system recently working in Sydney, at the instance of the Railway Commissioners? Yes; at that time I was agent for my company, and I also represented the Electrical Power Storage Co.
2284. Are you doing any work for the Railway Commissioners now, either as consulting engineer or as an agent? No. In no way of any kind.
2285. You are quite sure that this work can be carried out at a less cost than that estimated by Mr. Walker, and that it does not mean the abolition of the present system? Mr. Walker and myself are agreed as to the necessity of the alteration, but he says that it necessitates the abolition of the present system.
2286. Can you tell us what the copper wire would be used for? The only thing I can think of is for overhead wires to form a metallic return, but as Mr. Walker has provided for 3,150 miles of wire I cannot see what he wants it for.
2287. He says that the present wire is useless and will have to be thrown away, and he has therefore provided 3,150 miles of wire and will use the copper wire for the return? It is not necessary to use a different wire for the return.
2288. Here we have some very long circuits—to Ryde and Parramatta for instance? For long distances like that it may be necessary to use copper wire, but Mr. Walker has provided for 3,000 miles of it.
2289. Do you think that the item £5,000 for unforeseen expenses is unreasonable? Certainly not for a gross cost of £200,000. If the gross cost were about £40,000 it would be an undue proportion.
2290. You have had experience in the construction of electric wires? Yes, I have devoted the greater part of my time to the construction of overhead and underground wires. I was engaged in a cable factory making telegraph, telephone, and electric lighting wires.
2291. You are prepared to speak as a professional man on this subject? Yes. I am satisfied as to my capacity to speak.
2292. And you are satisfied that Mr. Walker's estimate is terribly excessive? Yes. The existing poles and wires could be used for all they are worth.
2293. You have said that irrespective of the construction of the electric tramway the telephone system of Sydney has now assumed such large proportions that a metallic return is necessary—that that has been the experience of all cities of a certain growth? Quite so.
2294. In a short time we shall be compelled to have the metallic system? Yes. Of course Mr. Walker may say that the present system is perfect.
2295. You do not? I have seen many worse systems, but this is not a perfect system; there are many interruptions which could be eliminated.

FRIDAY,

FRIDAY, 17 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	George Black, Esq.

Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street, to the intersection of John-street.

James Ormiston Callender, Esq., Consulting Electrical Engineer, sworn, and further examined:—

J. O. Callender, Esq. 17 April, 1896.

2296. *Mr. Roberts.*] Have you anything to add to your evidence of yesterday? Yes. I should like, if I may be allowed to do so, to put in a short statement in reply to the statement of cost furnished to the Committee by Mr. Walker yesterday. I should also like to read one or two original tenders in confirmation of the figures I stated yesterday, giving prices for the supply of poles. And first I should like to read the following extract from the *Government Gazette* of November, 1895:—

Tenders accepted—Rabone, Feez, & Co.

20 tons No. 12 galvanised iron wire	at	£12	15 10	per ton.
15,000 large insulators	at	0	0 6½	each.
15,000 small insulators with iron pin	at	0	0 7	each.

This is my estimate of the cost of duplicating the existing telephone wires—

3,150 miles No. 12—S.W.G. galvanised iron wire, weighing 150 lb. per mile = 211 tons, at £12 15s. 10d.	=	£2,699	0	10
Insulators averaging 50 per mile—				
157,500 insulators with pins at 7d.	=	5,010	8	4
Cross-arms 80,000 at 6d.	=	2,000	0	0
Labour—erecting wire, 3,150 miles at £2	=	6,250	0	0
Poles—Additional poles (erected)—				
500 50-foot poles in city at £10	=	5,000	0	0
2,000 35 ,, ,, ,, at £5	=	10,000	0	0
1,000 30 ,, ,, in suburbs.. at £2	=	2,000	0	0
		£32,959	9	2

I should also like to read the following letters:—

St. Mary's, 26 June, 1894.

We hereby agree to supply and deliver at Burwood Station 500 poles of the following dimensions, viz.:—30 feet long, 5 inches at top, and 25 feet long, 4 inches at top, to be of ironbark timber and subject to inspection, for the sum of—30 feet, 10s. per pole; 25 feet, 8s. per pole.

GARNER, TURNER, & Co.

H. H. Kingsbury & Co.,—

Dear Sirs, Mountain View, St. Mary's, 26 September, 1895.

I hereby propose to supply and erect all the poles required for the electric-light line from Clyde to Flemington in accordance with the specifications you supplied me with yesterday, and to complete the work to the satisfaction of the officer-in-charge at the following, viz., per pole—110 26-ft. I.B. poles 10 in. base 6 in., free of sap top, 15s., if three coats of paint 4s. extra, if sapwood to be removed throughout and pile to be dressed and painted, 35s.; 8 40-ft. I.B. poles (dressed), 114s.; struts at angles supplied and fitted, 5s. 6d., cross-arms, 6d.; running each No. 6 wire to support cable, 40s. per mile. The prices include supply of poles, struts, paint and painting, charring and tarring, fitting and erecting. All poles required of greater lengths, 6d. per foot run extra. Trusting that you may come out the successful tenderer.

Yours, &c.,
W. FLEMING.

H. H. Kingsbury & Co.—

Dear Sirs, Mountain View, St. Mary's, 26 September, 1895.

Yours to hand, *re* quote bush as well as dressed poles, also cross-arms. In reply to above, if ordinary bush poles of ironbark timber 26 ft. long, 10 in. base, and 6 in. small end, will be accepted for the work, I can supply you at 8s. each on rail, or delivered at Clyde, Auburn, and Flemington or Rookwood Railway Station at 9s. 6d. each. The 8 40-feets in the rough 1s. per foot run on trucks, or delivered at Flemington at 1s. 2d. per foot. I am sure you cannot get poles to pass inspection cheaper than above. You will notice that the prices submitted by me on the enclosed tender are for the whole of the work complete, except running cable, fitting lamps and hoodcaps, which will be extra. The whole of the work will not exceed, I should think, £160. This, of course, does not include material found by yourself and the Railway Commissioners.

Yours, &c.,
WM. FLEMING.

2297. *Mr. Lee.*] Are not 40-feet poles used by the Department? Forty-feet poles are used in the streets of the city, but not in the suburbs.

2298. Are poles as short as 40 feet ever used? Yes; I have seen poles which were certainly not more than 20 feet above the ground. In my estimate I have allowed for 50-feet poles in the city in some places, and for a number of 30-feet poles in other places, but in the suburban area I think a 25-feet pole would be high enough.

2299. *Mr. Wright.*] What is the length of pole now used? I am not prepared to make a definite statement on that subject, but I have seen a number of poles in the suburbs that are not more than 20 or 21 feet out of ground.

2300. What would be the difference in price between a 25-feet pole and a 30-feet pole? Five or 6s. The prices quoted in the second letter I quoted are very low. Mr. Fleming, I might mention, is now supplying the whole of the poles required for the electric-lighting contract at Flemington.

2301. *Mr. Roberts.*] Do you regard our telephone system as altogether unsatisfactory? I would not go to the length of saying that it is altogether unsatisfactory, but I think that it is capable of great improvements.

2302. I believe that Mr. Walker stated in evidence a few days ago that it would not be necessary to alter the present earth return system to a metallic circuit system for ten or fifteen years? I am perfectly certain that the present system will not be found satisfactory for so many years, and that within the next three or four years it is inevitable that it must be changed.

2303. To the metallic circuit system? Yes. When I say the change will be absolutely necessary within that time, I mean if you are going to maintain an efficient service.

J. O. Callender, Esq. 17 April, 1896.

2304. The subscribers would not submit to such an inefficient system as you think it must necessarily become, and the Department would be called upon to adopt metallic circuits even if we had no electric tramways? Yes.
2305. If the Government wish to give the subscribers what may be termed an efficient system the change should be made without delay? Certainly.
2306. You are certain that the change could be made at a cost not exceeding £40,000? Yes; assuming that Mr. Walker's figures as to the length of wire required are correct.
2307. Mr. Walker states that a new switchboard would cost £20,000, but you would retain the present switchboard;—have you any doubt as to the practicability of converting that switchboard? None whatever.
2308. Have you allowed for the cost of the work in your estimate? Yes; I have allowed £9,000, but I think that is more than the work would cost.
2309. You only contemplate such expenditure as would be absolutely necessary to bring about this conversion? Exactly.
2310. Mr Walker would commence *de novo*? Apparently he wishes to wipe out the present system entirely, and to start again from the beginning.
2311. Are you sure that the alteration could be completed within three years? I have no doubt that if I were given the opportunity I could complete it within two years. The duplication and alteration could be carried out with reasonable ease within that time. It would mean a good bit of work; but, if there was an earnest intention to get it done, two years would be long enough.
2312. How long has similar work taken in other cities? I am afraid that I could not supply you with that information.
2313. How do you arrive at the conclusion that it will take two years? There are 3,000 miles of wire to be erected, and in two years there are about 600 working days. That would leave 5 miles of wire to be erected each day, which would require only a very few men. There should be no difficulty in erecting 10 or 20 miles a day. Of course the arrangement of the work would require a certain amount of ingenuity to prevent disburbance; but the disturbance need not be very great, and when any particular section was finished alterations to correspond could be made at the switchboard.
2314. Would telephone communication be suspended during the alteration? It would be interfered with and disturbed, but not suspended.
2315. In your statement you confine yourself to a criticism of a statement put in by Mr. Walker? Yes. It appeared to me to contain the crucial point of the inquiry.
2316. Are you prepared to give an opinion upon the plans of the proposed tramway? I should be very pleased to give any information in my power in regard to it. With regard to the width of roadway, and so on, I do not think that my opinion is worth more than that of the ordinary citizen, but I can speak in regard to the electrical equipment.
2317. You have visited Chicago? Yes.
2318. Can you tell us what the cost per car-mile would be in a city like Chicago? No. When I was there the whole tramway system was in a state of conversion. They were converting cable trams to electric trams in some places, and in other places where they were running cable trams they had abolished the ordinary engines, and were moving the cable drums by means of electric motors. I have here a copy of a report by Mr. Walker, Mr. Smibert, of Melbourne, and Professor Brown, of New Zealand, on a proposed tramway for Dunedin, from which I should like to read the following extract:—

> We have already expressed the opinion that the proposed electric tramway would not, if proper precaution be taken, seriously affect the efficiency of the earth return telephone system, and it follows that we think it will be necessary to provide metallic circuits. Should this course under any circumstances become necessary, the wires could be placed either overhead or underground.

I was a member of a Committee of a Postal Conference which sat at Melbourne in 1894, and this document was laid upon the table for our information. It was in that way that it came under my notice.
2319. Are you in a position to give an opinion upon the estimate which appears on pages 5 and 6 of this evidence? I could give an opinion, but I do not think it would be worth much.
2320. I mean more particularly in regard to the electrical work? I have already carefully examined that estimate, and I think that the figures are very fair ones.
2321. *Chairman.*] You think that the estimate, apart from the permanent-way construction, is a very fair one? I think that the estimate of the cost of the electric equipment is very fair.
2322. *Mr. Roberts.*] Have you seen electric trams running in streets as narrow as George-street and where there is as large a traffic? I have seen them in streets nearly as narrow—in the town of Montreal, for instance.
2323. Do you think it would be wise to construct a tramway in such a crowded thoroughfare as George-street? Yes; and I am led to that opinion because of what I have seen of the tramway in Broadway, New York. There, if anything, the construction of a tramway has helped to improve the traffic. It divides the traffic into two lines instead of allowing it to wander all over the road.
2324. Have they a one-minute or a two-minutes service there? I could not say definitely, but I should not say that it was more than a one-minute service.
2325. If we had an electric tramway in George-street, with a one-minute or even with a two-minutes service, it would tend to diminish the traffic of the street? Yes; at any rate so far as 'buses and cabs are concerned. I should not think, however, that a one-minute service is likely to be required in the immediate future.
2326. A two-minutes service is contemplated;—that would sweep the street of passenger traffic? Yes, to a large extent.
2327. *Mr. Black.*] Is it a fact that, speaking broadly, telegraph wires are not affected by electric tram wires? They are not affected to anything like the same extent as telephone wires.
2328. That is because they carry a greater electric force than telephone wires carry? Speaking broadly, that is so.
2329. If it be true that the greater electric current affects the lesser, telegraph wires must exercise a prejudicial effect upon telephone wires? Yes.
2330. What is the difference in amperes between the force running on the telegraph wires, telephone wires, and electric-traction wires? Speaking broadly, the current for use on tramway wires may be measured in hundreds of amperes.

J. O. Callender, Esq. 17 April, 1896.

2331. An ampere being a unit of force? No, a unit of current. For telegraph work the current is a fraction of one ampere. It varies from one-tenth of an ampere to one ampere. For telephonic work it is measured by milliamperes, and is even less than that. Of course I am speaking on very broad lines.
2332. You would infer from Mr. Walker's estimate of cost that the telephone wires throughout the city are so bad as to require removal and replacing by new wires? Yes.
2333. If that is so, do you not think that it would be unfair to charge it as part of the cost of duplication? I do, decidedly.
2334. Would it be possible to do any of the work of alteration by night? I have not considered that view of the matter, but, speaking generally, I would say that it would not be advisable to do the work at night. I do not say that it could not be done at night.
2335. Supposing the present system of public lighting here were replaced by a system of electric lighting, would it affect the telephones? Not if the electric lighting system was properly designed. Electric light companies are prohibited from using earth returns.
2336. The disturbance to a telephone caused by an electric tram wire would much exceed any other form of disturbance? It depends upon conditions. I can conceive conditions under which the telegraphic disturbance might be quite as great; but, speaking broadly, the statement is correct.
2337. I suppose the circumstances you allude to include the propinquity of a large number of telegraph wires? Yes. Telegraph wires running parallel to telephone wires for any considerable distance affect the latter. The essential part of the disturbance by telegraph wires is caused by the parallel running of two separate wires. If the wires cross at right angles the disturbance is infinitesimal.
2338. I suppose that all great noises, though not after the same fashion, have a prejudicial effect upon the clear and effective use of the telephones? No. A pure noise does not affect the telephone, unless it is in actual proximity to the receiver.
2339. I meant a noise near either the transmitter or the receiver? A noise of that kind would affect the speaking only by overpowering the sound of the voice.
2340. Do not great vibrations have a prejudicial effect upon the receiver? An excessive vibration in a building might have a slight effect upon the telephone, though if it were a slow vibration it would probably improve the speaking. If it were a very rapid vibration it would probably cause a buzzing sound to be set up in the receiver, and would interfere with the speaking.
2341. Do you think that the construction of a city railway would cause such a vibration as would interfere with the transmission of telephone messages? You are not referring to an electric railway.
2342. No? I do not think it would interfere in the slightest degree.
2343. Neither by creating noise nor by creating vibration? I am certain that it would cause no interruption whatever due to vibration.
2344. Mr. W. H. Preece, Chief Engineer and Electrician to Her Majesty's General Post Office, has stated that among other disturbing things which interfere with the telephones of London are the Metropolitan and South London railways? The South London railway very seriously affects telephonic work in London.
2345. In what way? It is an electric railway.
2346. But why does Mr. Preece say that the Metropolitan railway interferes with the telephones? I can only assume that it is because of the large number of telegraph wires used in connection with the signalling. Mr. Preece went into the matter very thoroughly, however, and stated that he had traced a disturbance caused by the South London railway as far as Ipswich—a distance of about 60 miles.
2347. Could you, by adopting metallic circuits, so isolate an electric tramway that it would have no appreciable disturbing effect upon the telephones? Yes. If the tramway were constructed with a subterranean conduit, and two insulated conductors in the conduit, the disturbance to the telephone would be reduced to a minimum, and almost entirely abolished.
2348. That is the system in use in Buda Pesth? Yes.
2349. Could it be applied to the overhead system? It would be possible to apply it to the overhead system. It causes an extreme complication at points and junctions, and to my knowledge has only been used in one city in the world. It has not given such satisfactory results as to cause its adoption elsewhere.
2350. You think it would only be possible on a small line which had not many branches? Yes. At Cincinnati they have two overhead wires everywhere. That system has been in use for some years, but the experiment has not been repeated elsewhere, because it has not been found to have any compensating advantages.
2351. *Chairman.*] Except that the telephones require no protection? The telephone difficulty has been solved by the adoption of metallic circuits.
2352. *Mr. Black.*] Is the Cincinnati line run throughout on the span system? Entirely, I believe.
2353. Are there any branches on the Cincinnati line? Yes. It is a fairly extensive system.
2354. Did you say that it had proved a failure? No; but it has not proved so great a success as to induce other cities to adopt it.
2355. On the grounds of expense? Yes. It offers no appreciable advantages over the single trolly system.
2356. If it were decided not to construct an electric tramway in any part of the city or suburbs, would that, in your opinion, furnish sufficient reason for the continued use of an earth return telephone system? Emphatically not; though it might delay the alteration of the system.
2357. I suppose it would be fair to infer that the construction of an electric tramway in any part of the city or suburbs would interfere to an appreciable extent with the telephones? Yes.
2358. Are you in the habit of using the Sydney telephones? Yes.
2359. How does the Sydney telephone system compare in clearness of speaking and ease in sending and receiving messages with the systems in vogue in other places that you have visited? I have not been out of Sydney for three years; but in my opinion the service here is fairly rapid and quite up to the average as far as the attention of the operators is concerned. Connections are made quite as fast here as in other parts of the world; but the speaking is inferior to what it is in New York, though superior to what it was in London six years ago. Since that time, however, the London telephone system has been converted, and I have no recent acquaintance with it.
2360. It is fair to suppose that the London system has been very much improved by the adoption of metallic circuits? Yes.
2361. Do you think that if the Sydney telephones were much more indistinct anyone would use them? I do not know that I should; but I cannot answer for anyone else.

2362. The great increase in the number of telephones will make it necessary under any circumstances to attempt to improve the system in order to enable subscribers to get any advantage from it? Yes.
2363. You think that the adoption of metallic circuits is the only means of insuring privacy and secrecy together with clearness and distinctness? Yes.
2364. Even supposing Mr. Walker's figures are correct, do you not think that the cost of altering the system would be a fair charge upon those who use the telephones, because they would reap the benefit of any improvement? I do.
2365. Do you not think that it would be unfair to charge one branch of the Public Service with an expenditure incurred for the purpose of improving another branch? I think it would be very unfair to charge the travelling public, that is, practically the whole population of Sydney, with the cost of improving the telephone system, merely to benefit 2,000 or 3,000 subscribers.
2366. Is it not your opinion that in narrow roadways a rigid system compelling traffic to keep in a straight line is better than a system under which the traffic is almost entirely uncontrolled? Yes.
2367. Having seen various systems of electric traction in use, which do you prefer? That is a very broad question. If matters of cost were of no consideration, and if it were possible to adopt a perfect system of drainage, I should prefer the conduit system; but the cost of that system is very large, and it is extremely difficult to provide satisfactory drainage. I consider the conduit system the ideal system.
2368. Cost being a consideration, which system do you prefer? The overhead trolly system, using an uninsulated return.
2369. If metallic circuits were adopted in connection with the telephone system, would it be necessary to use return wires on the electric tramways? Insulated return wires.
2370. Yes? No. The main return would travel by means of the rails, they being bonded; but it is often found advisable to assist the rails by laying bare copper wire alongside them.
2371. Do you think that the bonding of the rails would be sufficient to provide a proper return? Yes; on a short line.
2372. But on a long line? No; because the cross sectional area of the rails would not be sufficiently large to carry the current back through the generators without considerable loss.
2373. In such cases you assist the rails by using copper wire? Yes.
2374. Where is that run? In some cases it is run overhead, in other cases between the rails underground, and in other cases under the footpaths. Of course the term "short distance" is a relative one. By it I mean one or two miles.
2375. The application of the metallic return system to the telephone system would be more expensive, would it not, than its application to the electric tramway system? Do you mean on the line under consideration, without regard to future lines.
2376. Yes? I should not like to say definitely.
2377. In England the tramway companies said that it would cost them a great deal to protect their system, but it would not cost the telephone people so much? No doubt with a complete system of electric tramways here it would cost more to protect the tramways than to protect the telephones; but I cannot say off-hand whether it would cost more to protect the George-street line than to protect the telephones.
2378. Are you inclined to believe that public safety and convenience demand some more scientific method of conveyance than we have at present? I think so.
2379. Having in view all the circumstances of the case, you would recommend an electric overhead tramway? I would.
2380. Is it your opinion that probable interference with the telephone system should not bar its construction? It is.
2381. One reason being that the adoption of metallic circuits is necessary to provide proper telephonic communication? Without the slightest doubt.
2382. Whether electric trams be constructed in Sydney or not, the growing indistinctness of telephonic communications here will in a few years call for an improvement by the adoption of metallic circuits? Yes.
2383. If an electric tramway should prove a success in George-street, is there anything to bar the extension of the system to other parts of the city? Nothing whatever.
2384. *Mr. Trickett.*] Do you agree with the expression of opinion contained in question and answer 1223? The ordinary telegraph wires are not affected by tram wires, but wires used for railway signalling have been affected by them.
2385. Then look at questions 1225–1229. From that evidence one would infer that, with perfect bonding of the tram lines, the chance of interfering with the telephones is eliminated; do you agree with that opinion? I do not.
2386. And your view is endorsed by eminent authorities in the old world? Yes.
2387. The following is a letter sent to the Committee the day before yesterday:—

> The Commissioners desire me to inform you that no interference with the telegraph or telephone wires can occur except as a result of imperfect construction or maintenance of the electrical portion of the tramway plant.

Do you agree with that? I do not.
2388. You entirely disagree with the opinion that the proper construction of the tramway plant will prevent interference with telephone wires? Yes.
2389. You said that the alteration of the telephone system will mean delay and interruption; will you explain that statement? It would be impossible to convert a large telephone system such as we have here without causing a certain amount of interruption to the daily business. It would be impossible to disconnect the earth connections and replace them with metallic circuits without interfering with the ordinary business of the Department, but I have no doubt that these interruptions would be reduced to a minimum.
2390. Would it be possible to work the system while the alteration is going on? Yes.
2391. Do you think that the opinion of Messrs. Gaine and Sinclair that it would be impossible to work the two systems together is erroneous? Instances of such working were given in the evidence taken before the Royal Commission which sat in London, and Mr. Walker has himself given such instances. He has pointed out the undesirableness of the arrangement, but he shows that it can be done. I agree with him as to the undesirableness of it, but, as part of a transition stage, there is not the same objections as if it were a permanent system.

J. O. Callender, Esq. 17 April, 1896.

2392. I would point out that in the extract you read from a report upon the Dunedin tramways Mr. Walker points out that any inconvenience could be avoided by the adoption of "proper precautions;"—might he not have had in his mind the adoption of metallic circuits? He does not indicate that he had any such thing in his thoughts. Besides, the adoption of metallic returns is a radical alteration, and I take it that Mr. Walker in using the words "proper precautions" was referring to the tramways.
2393. You do not infer that he intended the adoption of metallic returns? No. I had an opportunity of discussing the matter with Mr. Walker subsequent to his visit to New Zealand, but he did not raise the point at all.
2394. You have seen the report of the Commission consisting of Members of the House of Lords and the House of Commons which went into this question? Yes. I received the official report from Major Cardew immediately it was published.
2395. You endorse the opinion that metallic circuits are necessary to effectually prevent interference with telephone wires? Yes, to the fullest extent.
2396. Is the Military Road tramway a fair sample of a successful electric tramway? Well, that tramway has no engines of its own, the generators being driven by the cable engines. They are simply an adjunct to the cable engines, and under such circumstances there is hardly the same opportunity of obtaining economical results as if separate engines were used. Then, too, the overhead construction is by no means of the most modern type. The poles are ordinary bush poles, roughly dressed, to which brackets are affixed supporting the wires. The electrical part of the cars, however, may be taken as representing good modern practice. They have abandoned the electrical arrangement brought out for the Waverley line, and are using appliances of the most recent type. The electrical equipment of the cars may be taken as up to date, but the overhead-wire arrangements are not.
2397. *Mr. Wright.*] Would the use of wooden poles affect the current? I think not. At any rate not materially.
2398. *Mr. Trickett.*] There is no return circuit there? The rails form the return circuit.
2399. Are they bonded? I think not. They were not bonded originally, but they may have been bonded since. The permanent way was put down before an electric tramway was thought of, and I believe they avoided digging up the road and bonding the rails, for the sake of economy.
2400. You will not be surprised to hear in any case that there have been frequent complaints from the people at Manly Beach that the electric tram seriously disturbs their telephones? I should not, because I know that to be the case.
2401. Do you agree with Lord Kelvin's evidence on this point as it is quoted in the Appendix to Mr. Walker's statement? Yes.
2402. Have you seen flashes on the North Shore tramway at night? Yes.
2403. Do you agree with the opinion given in answer to Question 1330? No, I do not. I have had occasion to speak about the disturbance caused by this tramway myself.
2404. Have you been in Hobart recently? No.
2405. Are you aware that there they had the cross wires of the electric tramway attached to the same poles as the telegraph and telephone wires, but that they had to remove them because of the disturbance caused to the telephone wires? Yes. The matter was brought up at the Melbourne Conference by the Superintendent of Telegraphs from Tasmania, and he appended to the report of a Committee of the Conference a special statement in regard to the matter.
2406. The statement that tram wires have been put upon the same poles as telegraph and telephone wires, and that there has been no objection to the arrangement, is not correct? It is not, unless the telephone wires had metallic circuits.
2407. When were you last in America? About three and a half years ago.
2408. Had the question of interference with telephone wires by electric tram wires cropped up then? Yes.
2409. Was it agitating the public mind to any extent? No; but before the electric tram companies had carried out very much construction the telephone companies adopted metallic circuits. Although there were, and are still, a few companies using earth returns, the telephone companies generally have admitted the necessity for metallic circuits, and have adopted them without pressure.
2410. Your scientific opinion is that the only effectual way to prevent the electric tram wires from interfering with the electric telephone wires is to use metallic circuits for the telephone wires? Yes.
2411. *Mr. Humphery.*] Did you say that in Liverpool they have metallic circuits? No. I said that I had no information upon the point.
2412. You cannot say that the telephones in Liverpool are not working satisfactorily with earth returns? I cannot.
2413. If they are working satisfactorily is there any reason for disputing Mr. Walker's statement that our telephones will continue to work satisfactorily with earth returns if no electric tramways are constructed? If evidence can be brought to prove that the Liverpool telephones are working satisfactorily, on the earth return system, there is no reason to doubt that such an experience can be repeated.
2414. Are you prepared to express an opinion with regard to the matter? I do not believe that the telephones in Liverpool can be working satisfactorily on an earth return system if the number of subscribers is 3,500. The only matter I can speak of from my personal knowledge is that three years ago the speaking was distinctly inferior to what it is in Sydney.
2415. You said yesterday that up to 1894 600 square miles of telephones had been altered to the metallic return system;—would those be the National Telephone Company's wires referred to by Mr. Walker as being six times the length of the Post Office wires? I think that is probable.
2416. Are you aware that it is stated in the papers handed in by Mr. Walker that it would occupy several years to convert the lines of the National Telephone Company in London to the metallic circuit system? Yes.
2417. Then are you prepared to affirm that metallic circuits for all the wires were adopted by the National Telephone Company by the end of 1894? No. I stated that in 1894 the cost of converting the whole of the wires was estimated at £200,000. The work was at that time in progress.
2418. Can you say what progress has been made with it? No.
2419. Then Mr. Walker may be correct in the statement that the greater number of the London telephones have an earth return? Speaking of London, most of the wires to my personal knowledge have now metallic circuits.
2420. When did you leave London? About three years ago.

J. O. Callender, Esq. 17 April, 1896.

2421. At that time had the conversion been made? Yes, with regard to a great many of the wires; and the conversion of the rest was being pushed on with rapidly.
2422. That would be prior to the report of the Joint Committee of the House of Lords and the House of Commons? The report of the Joint Committee of the House of Lords and the House of Commons was made subsequent to that. It was stated before that Committee that £100,000 had already been spent by the National Telephone Co. in converting their wires. This is the evidence of Mr. W. E. L. Gaine on 20th June, 1893:—

In answer to Mr. Cripps, Q.C., who cross-examined on behalf of the electric traction interest, witness said Newcastle and Hull were examples of exchanges on metallic circuits. In those cases they charged a rent of £10 per annum to subscribers. In Liverpool also the rent was £10.

When you were working London on the earth system, what was the rental? £17 upon a five years' contract, and £20 on one year's contract.

Then you have not charged more where you have the metallic circuit return than where you have an earth circuit return? That is so.

Suppose in any district you had electric traction without perfect insulation, would not you say that a metallic circuit would be the best, and perhaps the only complete protection of the telephone? I should say complete protection would be afforded by perfect insulation of the traction. He had no hesitation in saying that if all their system were put on to metallic circuits, and there were no question of time, convenience, or cost, and that the reasonable precautions were taken by the tramway traction, probably there would be no disturbance. Asked if he thought there was any practicable method by which electric traction and telephones might be used in reasonable contiguity except by putting the telephones on the metallic circuits, witness said he would prefer that an electrician should answer that. In London the alterations had extended for practical purposes to the whole of the junction wire on the different exchanges, and some proportion of subscribers' wires had been replaced by cables; but a very considerable cost had yet to be met in the alteration of the switchboards. He could not give the cost up to the present time in really reliable figures, but he should think it was about £100,000.

2423. Was it Mr. Gaine who said that if the system were universally adopted the cost to the National Telephone Co. would be £2,000,000? Possibly.
2424. Can you explain the discrepancy? Well, the interests of the National Telephone Co. extend over the whole of England.
2425. The actual cost of conversion in London was £200,000, but the cost of converting the whole of the telephones throughout England might be, as stated by Mr. Gaine, £2,000,000? I do not understand how Mr. Gaine comes to that conclusion.
2426. But am I correct in quoting the statement as I have done? Yes; you have quoted it correctly, but I should like some further explanation of it.
2427. Can you tell us the number of telephones in London at the present time, approximately? Twenty thousand.
2428. If it cost £200,000 to provide metallic circuits for 20,000 telephones, we may infer that it would not cost anything like £215,000 to provide metallic circuits for the 2,050 telephones that would probably be affected by the George-street electric tram? I cannot conceive how it could.
2429. *Mr. Wright.*] I understand that you have had some experience in constructing the roadway for electric trams? I have never carried out any road construction, though I have been present on works carrying out electrical equipment when the road was being constructed by other contractors.
2430. The proposal before us is to lay the rails on solid concrete? It is the practice in England to do so. I recently received very full papers about the Dublin tramway, in which my attention was specially called to that fact.
2431. Do you think that £12,800 will pay for the electrical appliances requisite for the proposed tramway? I am quite satisfied that the machinery mentioned can be procured for the price stated in the estimate.

Alderman Charles Edward Jeanneret, sworn, and examined:—

Alderman C. E. Jeanneret. 17 April, 1896.

2432. *Chairman.*] You are an alderman of the City of Sydney? I am.
2433. You are acquainted with the proposal which this Committee is now considering? Yes.
2434. Can you inform us what the attitude of the Sydney Municipal Council is with regard to it? This particular proposal has received no consideration in the Municipal Council, either in full Council or in Committee. The matter was brought up by me as soon as it was decided by Parliament to make a reference to this Committee. I then said that it would be the duty of the Council to advocate the construction of the tramway, and an understanding was arrived at that a meeting should be held to discuss the matter when the thing was further advanced. Then, about a fortnight ago, after the close of a meeting at the Council, when many of the aldermen had left the room—including myself, Sir Wm. Manning, and others, who are strongly in favour of this scheme—the Mayor said, "I have received notice to attend and give evidence before the Public Works Committee with reference to the proposed electric tramway. I am very much opposed to it myself, because I consider that the system has been a failure wherever it has been tried. Is it your wish that I should give evidence?" Those present said, "Do as you like," and nothing more occurred. Yesterday the Mayor informed me, however, that in view of the importance of the question he would call a special meeting of the Council to consider it. I have been a member of the Council for ten years, and during nearly the whole of that time I have been agitating to get better means of communication to the city, and I have here a memorandum of what has been done by the Council in the matter. The Council have never lost sight of the desirableness of improving matters; but they have had no power to act, and the Government have been waiting for information from other parts of the world We felt, too, that any attempt to support private companies would be met with opposition by the Government, though draft Bills to enable companies to undertake the construction of cable and electric tramways have received the approval of the Council. These Bills, however, have come to nothing. This is a letter which I have received from the Town Clerk in regard to the action of the Council:—

Dear Sir,

I send you the enclosed particulars *re* the tramway proposals that have come under the Council's notice. The motions moved in Council have been principally in your name, and have been hampered by some amendment to postpone consideration.

Then follows this statement:—

Tramway Proposals.

December 18th, 1888.—G. Proudfoot made an offer of £3,000 per annum for privilege of constructing tramways in George-street from Circular Quay to Redfern. Reply:—Council had no power to accept.

March,

Alderman C. E. Jeanneret. 17 April, 1896.

March, 1889.—New South Wales Tramway Company's Bill considered, and clauses passed seriatim up to Schedule of Routes, then adjourned for three months. This company offered a proportion of profits after payment of interest upon capital.

April, 1889.—Council resolved to petition Parliament to empower the city and suburbs to lay down, or cause to be laid down, a system of tramways.

In October, 1889, Mr. Alderman Jeanneret moved that the Council approve the proposal of the Government to construct cable trams; consideration postponed.

November 7th, 1889.—Principle of the Sydney Tramway and Omnibus Company's Bill approved, subject to the details being considered in Committee. Council approved Bill finally in July, 1890.

May 6th, 1890.—G. Proudfoot increased his previous offer of £3,000 to £5,000.

May 27th, 1890.—David Proudfoot offered £30,000, and subsequently increased it to £60,000 per annum for the privilege of establishing an approved system of tramways. Council received the communication, but took no further action.

In January, 1892, Mr. Alderman Jeanneret moved a resolution urging speedy construction of tramways for the city and suburbs. The Council allowed the matter to stand over for future consideration.

The Government decided on the King to Ocean-street cable tram in 1892.

The Sydney Omnibus Company wished to construct a network of tramways in Sydney similar to that which they have in Melbourne, but the Council drove them so hard in the conditions that they imposed that they found they would not get very much out of it. The Council have all along been most desirous that the number of tramways in the City should be increased, and I believe that a tramway up George-street has for a long time found favour with them. The inhabitants of George-street, and I believe most of the aldermen, will support this proposal as strongly as they can, and more especially if arrangements can be come to with the Railway Commissioners whereby electric lights may be affixed to the tramway poles. Members of the Committee who have travelled know what an advantage it is to have lamps in the middle of the streets, and in point of fact we are about to place two lamps in the middle of George-street at the intersection of King-street—one opposite the Joint Stock Bank and the other opposite the English and Scottish Bank—the space between the tram lines being insufficient to enable us to place a lamp in the middle of the crossing.

2435. *Mr. Lee.*] An electric light on one of the proposed standards would be better than two gas lamps? Very much better. There are three great advantages obtained by having lamps down the middle of the street. By that arrangement one lamp serves the purpose of two, and throws the light under the awnings. At the present time in many places the pavements are in darkness because the existing lamps do not throw a light under the awnings. Then, again, such an arrangement will divide the traffic. Lastly, the lamp-posts will provide places of refuge for pedestrians crossing the thoroughfare when it is crowded with traffic.

2436. *Mr. Black.*] Do you know of any circumstances which would empower Mr. Ives to come here and speak on behalf of the City of Sydney in opposition to the proposed tramway? I do not understand that Mr. Ives did that.

2437. I do not say that he did; but do you know of any circumstances which would empower him to do it? No; there are no such circumstances.

2438. Are there any circumstances which would empower him to come and give evidence against the tramway on behalf of the City Council? I do not know who has communicated with Mr. Ives on the subject. I know that a deputation waited upon him to ask him to withdraw the opinion which he had expressed.

2439. So far from Mr. Ives being authorised to oppose the construction of this tramway, you know that he had an expression of opinion from the people of Sydney in favour of this construction? He had such an expression of opinion from a deputation.

2440. Had he at any time any authority to speak against the proposed tramway? Only his own opinion.

2441. He had no authority from the City Council? I have explained exactly what took place.

2442. Do you consider that he had authority? No. If I had been present and had heard Mr. Ives express an opinion against the construction of the proposed tramway I should have combated it instantly.

2443. Then he can have given no expression of opinion which would bind the aldermen? No. The aldermen did not give Mr. Ives any authority to express their opinion. I arranged with Mr. Ives yesterday to call a meeting on the subject, and I have no doubt that if the Railway Commissioners are willing to make some arrangement for electric lights in connection with the tramway, as I think they will, the majority of the aldermen will be in favour of its construction. There are, of course, certain conditions which we should like to make; for instance, the council would certainly object to the Commissioners making £10,000 a year profit out of the line, because they would consider that that profit was being made at the expense of the citizens.

TUESDAY, 21 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Henry Clarke, Esq.
The Hon. John Davies, C.M.G.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.

George Black, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Arthur Clement Frederick Webb, Esq., M.I.E.E., Consulting Electrical Engineer, sworn, and examined:—

A. C. F. Webb, Esq., M.I.E.E. 21 April, 1896.

2444. *Chairman.*] What are you? An electrical engineer.

2445. What experience have you had? About fifteen years.

2446. At what? At electrical engineering generally, including all branches, and I have also been a certain time in the telegraph service of this Colony.

2447. You feel yourself competent to express an opinion in regard to the estimates for a metallic circuit? Yes.

2448. Have you seen Mr. Walker's statement? Yes; I have it here before me—at least, an abstract of the details of cost.

2449.

A. C. F. Webb, Esq., M.I.E.E.
21 April, 1896.

2449. Have you considered them? Yes; I have considered them.
2450. Are you prepared to give us definite information in regard to them? Yes.
2451. *Mr. Fegan.*] You say that you have seen the evidence of Mr. Walker, more particularly in regard to the cost which he said would be entailed by the laying of a metallic circuit? Yes.
2452. He mentions £252,100; do you think that is accurate? It seems to me very excessive indeed.
2453. Have you any written statement which you wish to read? No; I have not. I had not time to prepare one.
2454. Take, for instance, the poles? I think the number of poles of the size mentioned is very excessive; but even assuming that that number of poles will be required, which I do not think would be necessary, the cost would not be anything like £10 apiece. £129,000 for poles alone is enormously in excess of what would be required.
2455. In your opinion, how much should that sum be reduced by? I think the first figure could be taken off easily, leaving £29,000. Of course I understand that the increased use of metallic circuits would not necessitate such an enormous number of extra poles. This calculation has apparently been based on the assumption that the number of poles in the city would have to be doubled, and that the existing poles would become valueless. £129,000 would very nearly cover the cost of that.
2456. Then there is that 3,150 miles of wire, including labour, erection, &c., £79,600—would you suggest a reduction in that? That certainly seems to me to be very much over-estimated.
2457. Have you any reasons for saying so? Yes, I have. A great deal of that would be for cable. I have reckoned up the cost, which is put down at a little over £20 per mile. The cost simply of bare wire would not come to half of that sum per mile. That is allowing nearly £20 per mile for wire, including labour and erection, and exclusive of poles. Laying perhaps one wire at a time, the cost might possibly come to that; but as the wires would be duplicated more or less all together—that is, the wires would be put up by the same gang of labourers, a number of wires being strung up at a time—that estimate can be reduced very much indeed. That may be taken to be Mr. Walker's estimate for putting up one single wire at a time, the duplication being with overhead wires, which would be very undesirable. The probability is that if the metallic circuit system were introduced, the majority of the wires would be put underground, and a very large number of them would be placed in the conduit that is being put down.
2458. And that would reduce considerably the number of poles estimated for? Very much indeed, because, of course, a very large number of lines could be taken along that conduit and removed from the overhead poles, and the labour of placing them in the subway would be infinitely less than that of placing them on the poles. Moreover, the cost would be largely reduced by using cables of twenty-five or fifty wires each, and the labour of placing in the conduit a cable of fifty or twenty-five wires is very little more than the labour of placing a single wire overhead. Therefore, the laying of the wires in the conduit will be very much less expensive than placing the wires on poles.
2459. So you would reduce that item by considerably over £50,000? Yes; that is, on the assumption that a great deal of that wiring would be placed underground. There would be no necessity to extend a subway of the present size throughout the whole district. Practically, the whole of the wires in London are underground. The system there adopted is simply that of cast-iron or wrought-iron pipes, as the case may be, laid under the footways, with a certain number of drawing-in boxes, and the wires are simply drawn into an ordinary iron pipe, which system has been found very efficient indeed. Of course, for a very large number of wires, especially wires used for electric lighting purposes, a conduit is necessary; but for the ordinary work of telegraphing, or telephoning, a conduit of that size is not by any means necessary, and a much cheaper system could be adopted.
2460. *Chairman.*] In your opinion is the present subway an extravagant thing, viewed simply as a carrier for telephones? Viewed simply as a carrier for telephones, I should say it is.
2461. Would they use it in London? In London simply an ordinary iron pipe is used.
2462. Therefore, such a subway would not have been built in London for telephones? Certainly not for telephones alone.
2463. *Mr. Fegan.*] They are massive pipes, are they not, in London, such as are used for water-pipes? An ordinary stand-pipe, usually of wrought or cast iron, of from 6 to 9 inches. There are no special details about it. The only point is, of course, that the pipes are so constructed and laid that water shall not get into them; or, if it does get in, that it shall drain away and not remain in them.
2464. Take the next item, "additional wiring required to provide for metallic circuits 100 miles, 25-core cable for repairs, emergencies, &c., £15,000"? I cannot understand altogether those two items being placed separately—I mean the item "3,150 miles of wire, including labour, erection, &c., £79,600," and then, additional wiring estimated to cost £15,000. Again, there is "50 tons hard drawn copper-wire at £70 per ton, £3,500." Those are the three separate items for wiring.
2465. Taking the whole estimate of £252,100, I understand that to be very excessive indeed, and you have given reasons why; there is another statement made by Mr. Deane, to the effect that £50,000 would cover all—do you think that is a near estimate? I should think that that was a very much nearer estimate than Mr. Walker's.
2466. I presume that you have gone into this question? Yes.
2467. Can you give us any estimates of your own? I have had but little time to go into the matter, but I have made rough estimates. Of course the matter depends rather on what the scheme is going to be; whether a majority of these wires are going to be left overhead and a complete metallic return erected, or whether they are all going underneath and metallic return cables are going to be used. Under the present system of using overhead wires, and using a very large number of the poles that are at present in use, and where there is a very large number of separate wires used in overhead cables, the cost should not much exceed £50,000, the rough estimate I have made, or, say, about £53,000.
2468. So that Mr. Deane's estimate is a fair estimate, considering all things? Yes; and the cost of placing the wires underground, considering that these alterations would be made, would not exceed that by a very large amount. There is another point I should like to draw the Committee's attention to. I am a telephone subscriber, and, of course, I appreciate the disturbances that are due to various inductive effects—cross-talking and telegraphic circuits, and so on—and there is no question that a complete metallic return is the proper system to have.
2469. And is necessary? Yes; for a complete system. This is shown by the fact that what are known as direct lines—that is, lines extending from one town to another, such as are used in England, all require to have a metallic circuit. Stockholm is generally considered to be the best telephone city in the world,

and

A. C. F. Webb, Esq., M.I.E.E. 21 April, 1896.

and there a complete metallic circuit is used throughout, and the English Post Office system started from the commencement with a metallic return, it being recognised that that gave the best service. It may not be the cheapest in the first instance, but it undoubtedly gives the best service.
2470. May I ask where you reside? At Edgecliffe.
2471. Therefore you are not near the North Shore tram? No, I am not.
2472. Yet I suppose you have to complain about the continual interference with the telephone wire? Yes, undoubtedly. Not, of course, so much there, but in speaking to other places—for instance, in speaking to some of the suburban lines. One I remember in particular was Hunter's Hill sub-exchange. In that case one could hear the telegraph instruments working, and an expert reader could read every message going through. Of course, there is unquestionably likely to be a certain amount of disturbance.
2473. The telegraph line does not interfere so much as the electric traction would? Well it is possible that it might do so quite as much, but certain precautions can be taken which will reduce perhaps the ordinary interference of the traction. The trouble is principally caused by irregularities of contact with the trolly.
2474. Would proper bonding get over that? That would overcome it to a certain extent. An electrical engineer, named Dr. Du Riche Preller, made some experiments, showing the difference in the disturbances on the telephone as caused by an ordinary trolly, such as is used at North Shore, and what is known as a sliding contact, somewhat after the type used in Hobart; and he showed that the sliding contact did not cause anything like the same amount of disturbance of the telephones as the trolly did, showing more particularly that it was due to the trolly not always keeping in contact with the wire. It is the variation of the electric motive force that causes the disturbances of the telephone.
2475. Then, your opinion is that with proper bonding, and with care in the construction of the tram-line, a great deal of the obstacles could be got over which are objected to in reference to electric traction? I certainly think so.
2476. I suppose you know that Mr. Walker strongly objects to this tram-line being constructed unless a metallic circuit is laid? No; I was not aware of that.
2477. Or, in other words, Mr. Walker points out that this line will not only materially interfere with, but also make the telephones almost useless, chiefly along the route in George-street, where the tramway is to be laid; and, according to your evidence, that can be got over by efficient bonding and care in the laying of the circuit? I do not say that that could be got over entirely. There will always be interference, but as doubtless you are aware, it has been held in the courts both in America and on the continent of Europe that the telephone authorities are to protect their own wires against the interference—that they have not the sole use of the earth as a return. I should also like to point out that the Telephone Department are now speaking of reducing fees on the 1st May, and I personally, as a telephone subscriber, would rather pay my present fee and have an efficient metallic circuit return than have a reduced fee. A very eminent authority on telephone work, Mr. A. R. Bennett, has stated, and has shown fairly conclusively by figures, that a double metallic circuit laid underground, with an exchange having as many as 1,000 subscribers, should be possible to be put down and maintained with a subscription of not more than £10 a year each. In Manchester the fee charged by the Mutual Telephone Company is only £5 a year, and they have a metallic circuit. Therefore, the cost should not be anything like so excessive as stated by Mr. Walker.
2478. The laying of a metallic circuit would get rid of all the interference that occurs at the present time? Yes; it is the only way of preventing outside interference altogether, and it should not only do away with the interference of the tramway, but also the cross talking, the interference of the telegraphs, and every other interference. Without it there might be interference with the electric light wires.
2479. Which very often interfere? Yes. I know that in connection with the railway telephone that comes by Penrith, when the electric light engine at Penrith is running, you cannot hear a word on that telephone; but if they used a metallic return, and the lines were laid close together, there should be no disturbance at all.
2480. You have seen the plans and also the proposals which are before the Committee in connection with the construction of this tram-line? No; I have not seen the plans. Of course I know the general proposals.
2481. I suppose you have had nothing to do with electric traction, so far as tram-lines are concerned? No.
2482. Were you employed in the Railway Department for some time? No.
2483. I thought you were the electrical engineer for the Railways and the Post Office for a considerable time? I was in the Post Office for three or four years as Mr. Cracknell's personal assistant and electrical adviser.
2484. You were not in the Railway Department then? No; but naturally, in common with other subjects, I have given this matter a great deal of attention.
2485. Have you seen any of the electric tram systems at work? Only here, principally, and the accumulator system that was put down at Sandhurst at one time.
2486. Was that successful? No; it had to be abandoned.
2487. On account of the expense, I suppose? Yes.
2488. I suppose that you have gone fully into the system of overhead-wires for electric traction? Yes.
2489. In your opinion, is that the best system that could be adopted? Certainly; I think it is the best system that could be adopted as an economical system. Of course an underground system—that is, with the wires underground—would be ideally very much better, but the mechanical difficulties in the way, more particularly in keeping the conductors free from leakage, are generally so great that up to the present it has been found very uneconomical.
2490. *Mr. Roberts.*] Do you think, irrespective of any proposal to construct an electric tramway, that the metallic circuit system should be at once introduced in connection with our telephone exchange? I think so, as soon as possible. It has undoubtedly proved itself to be the best system as regards subscribers.
2491. You regard the present system as unsatisfactory? I do. There are worse systems.
2492. I presume that you have considered Mr. Walker's report? I have only read a portion of his evidence, and what has appeared in the newspaper.
2493. You regard it as being really necessary that the metallic circuit system should be brought into operation? Distinctly so. 2494.

A. C. F. Webb, Esq., M.I.E.E. 21 April, 1896.

2494. More especially if this tramway be constructed? Yes.
2495. How soon do you think the metallic circuit system could be brought into operation? It could be done quickly at comparatively high expense, but to do the work economically it would perhaps take from one year and a half to two years. That, of course, would be doing it as economically as possible—using the present gangs of men employed by the Department. With special gangs it could be done in less time, but would cost more.
2496. I think you estimated that the work could be done for £53,000? I should say that it would take from one and a half to two years to do it under those circumstances; that is, of course, not counting the time that will have to elapse before getting the material here, but from the time the material was at hand.
2497. In your opinion, would a new switchboard be necessary in case we adopted the metallic circuit system? One of the advantages of what is known as the multiple switchboard, such as is used in the Post Office here, is that it can be converted, comparatively easily, to the metallic circuit system at a small amount of expense.
2498. I notice in Mr. Walker's estimate the item, "Complete metallic multiple switchboard for 3,500 numbers, £20,000";—may I ask, in the estimate you have prepared, how much you have allowed for alteration of the present switchboard? I allowed about £6,500 for conversion of the board and, practically, the exchange.
2499. You think that would answer all the purposes for some years to come? Oh, yes; I think that will quite do so.
2500. Are you acquainted at all with the erection of the metallic circuit system in London by the National Telephone Company? No.
2501. Can you give us any information as to cost? No.
2502. I think I am right in saying that that company put down a complete metallic circuit system? I remember an estimate being made in London, but I cannot remember at this moment what the figures were.
2503. I think I am right in saying that it was done over an area of 600 square miles for £200,000;—I thought that perhaps you could give us some information as to those figures? I remember a scheme being proposed, and an estimate being made about two years ago to cover the present system. It covered a number of sub-exchanges and a very large area in London, and, as far as I remember, the estimated cost was under £250,000.
2504. *Mr. Trickett.*] If it has been stated before this Committee that a return-circuit, from the wire which is to carry the electric power to drive the tramway, by means of the rails on which the tram is to be run being bonded closely together, would entirely do away with any interference with the telephone wires, do you agree with that proposition;—do you think that a return-circuit of that kind would effectually prevent the electric current on that driving-wire from interfering with the telephone wires? Not entirely.
2505. Would it remedy it sufficiently to prevent inconvenience to the public in the use of the telephone wires? I should think it doubtful.
2506. Would it remedy it as effectually as the metallic circuit of the telephone wires itself would? Certainly not.
2507. Then you do not agree with the proposition that I first stated—that that kind of circuit would effectually do away with the interference? No, certainly, it would not.
2508. Then I understand that you agree with Mr. Walker in his idea that the metallic circuit of the telephone wires is necessary for the perfect working of the telephone wires? Certainly.
2509. You only disagree with him with regard to the cost of carrying that out? Yes.
2510. *Mr. Clarke.*] Have you any idea how long it would take to bring this metallic circuit into operation? That would depend very largely on the amount of money allowed for it. It could be done very quickly at a greater cost, or it could be done, say, in one year and a half or two years at a comparatively small cost.
2511. But what arrangement could be made in the meantime to prevent interruption of the telephone wires, because we have evidence that it will be impossible for the telephone to work satisfactorily until we have a complete metallic circuit? That is so.
2512. Therefore I want to know whether you can give us any information as to what could be done in the meantime—during the completion of the erection of the metallic circuit? The only thing I would suggest would be that in the meantime, if the alteration cannot be effected by the time the tram will commence running, those wires which will be on the route of the tram should be attended to first.
2513. Would that obviate the difficulty of interruption of messages by telephone? That would obviate the difficulty with regard to those subscribers.
2514. I see in the evidence given before the Joint Committee of the House of Lords and the House of Commons in the matter of the National Telephone Co. *v.* the Leeds Tramway Co., that Mr. W. E. L. Gaine, general manager of the National Telephone Co. was asked:—

Supposing that electric traction of a similar character to that which is employed on the tramway at Leeds was sanctioned and used on the Liverpool tramways, would all these lines of wires be so disturbed that you would have to turn them into metallic circuits?

The answer to that was:—

Judging from the experience the company has at Leeds, undoubtedly that would be so. Those lines would be valueless for commercial purposes. I am particularly anxious to impress my views with regard to this on the Committee. Mr. Preece in his evidence yesterday was very strong. It appeared to me that the remedy of the Telephone Company was to duplicate their wires, but I doubt whether Mr. Preece or anybody else realised what that meant. This system has been built up for a number of years, and their 3,500 or 4,000 wires coming into the Liverpool Exchange had to come in all over the roofs for which switchboards, &c., had been put up. The great bulk of the switchboards of the country were single boards; it meant the taking out of those—an enormous work, and the re-erecting of the entire system; and he had no hesitation in saying that if the Leeds tramway were planted in the city of Liverpool to-morrow, Liverpool would be deprived of the telephone for at least five or six years. He would not undertake to re-duplicate the wires and re-arrange that system under that time.

2515. Do you agree with that witness as to the time it would take to complete this metallic circuit? Well, there is this to point out, too, that the board used there is of a different type from the board used here, which fact would necessitate a very great alteration in all the wires there. There is also the fact that there is about double the number of subscribers in Liverpool, which would necessarily increase the length of line, and probably make the distance it would go much greater.
2516. But are you aware that the population of Liverpool is about the same as that of the city of Sydney and suburbs? It is about the same, but the question is not so much one of population as the number of telephone subscribers.

A. C. F. Webb., Esq., M.I.E.E.

21 April, 1896.

2516½. Well, it says here, "3,500 or 4,000 wires"? That would mean about 4,000 subscribers, which would be very nearly double the number in Sydney.
2517. Do you believe in the overhead system of electric traction in preference to any other system? I believe in it as the most economical system at present. The mechanical difficulties with regard to the underground system are too much at present for us to overcome, more especially in regard to the question of water and drainage, which is the principal difficulty.
2518. I see from this report that Mr. D. Sinclair, engineer-in-chief of the National Telephone Co., was asked by Mr. Moulton if any change was ordered would it take any considerable time to make it, and the answer was—

> Taking the town of Liverpool, there were 3,500 telephone wires. If they had to metallicise those overhead, the standards which carry the present wires would not be sufficient, so that it would mean sweeping down the entire system and building up a new system to carry twice as many wires. Inasmuch as it is impossible to work an exchange partly on the single and partly on the double on any large scale, they would have to make the change all at once.

? I think that that statement is rather exaggerated.
2519. That is the evidence given, I believe, by a capable engineer, the same as the other was whose evidence I previously read;—you do not agree, then, with the evidence I have read? No; I do not agree with the statement that the whole of the system would have to be swept away.
2520. Well, according to what you have stated, you cannot give an answer to my previous question, as to how the present telephone system could be worked while these metallic circuits were being completed? I do not see any difficulty. In the first place I do not suppose that what interference there may be will be sufficient to entirely destroy communication, and in the second place it is quite feasible to utilise the circuits while conversion is going on.
2521. Well, we have it in evidence, I believe, from more than one witness who has been examined here, that it would be impossible to carry on the present telephonic system in Sydney and suburbs without having a complete metallic circuit? It would be impossible to carry it on satisfactorily. That is quite true.
2522. In that case, the public would be inconvenienced? The telephone-using public would—about 2,000 subscribers.
2523. *Mr. Lee.*] You substantiate the statements of previous electricians that the construction of this tramway in George-street will, unquestionably, materially disturb the telephonic system in Sydney and suburbs? Yes.
2524. You thoroughly endorse that? Yes.
2525. It would appear that the only way of obviating that difficulty would be by putting down what is known as a metallic return? Yes.
2526. Do you know of any other means by which this disturbance could be avoided? I do not know any other means by which all external disturbances could be prevented from occurring on the telephone wires.
2527. Are there any recent discoveries in the electrical world in the direction of dealing with this very serious difficulty, which not only crops up here, but must have made its appearance in every other part of the electrical world? The matter has cropped up frequently, and has been dealt with in the electrical papers, and the opinion is that metallic circuits are necessary independently of whether there is an electric tram or otherwise—that the metallic circuit system is the proper system to adopt in connection with the telephone system.
2528. In other words, if a perfect telephone system were laid in the first instance anywhere, then it would make possible the introduction of electric lighting, electric traction, or electricity in any other form, without interfering with that system—is that what you mean? Yes.
2529. You are of opinion then that a metallic circuit will have to be established in the city of Sydney, whether there is an electric tramway in the streets or not? Sooner or later, certainly.
2530. Is your reason for saying that, that the telephone system is so largely increasing, and that it has already reached such dimensions that it cannot be satisfactorily worked as an ordinary earth return? I think it reached that point some time ago.
2531. And, therefore, as it is likely to increase largely in the future, the time has arrived when a metallic circuit should be established altogether, irrespective of the construction of this electric tramway? Yes.
2532. You thoroughly agree with that? Yes. I thought that, before the question of an electric tramway down George-street came to my knowledge at all. It is borne in upon one every time one uses the telephone.
2533. Even supposing that this electric tramway is not constructed, and that there is no metallic return to the telephone wires, is it not quite within the range of possibility that the whole city may be lighted by electricity in a short time, which will necessitate a perfect net-work of wires throughout the city? Yes.
2534. Would that not be a very serious menace to the telephone system? It would probably be, very.
2535. Would not the introduction of the system of electric-lighting make it imperative to establish a metallic circuit for the telephone system? It would.
2536. Therefore, if we have to consider the question of traction at the present time, we must also consider the probability of the immediate introduction of a system of electric-lighting for the city? Yes.
2537. Which cannot be possible unless there is a telephone metallic circuit system? If an electric-lighting scheme, such as that suggested in a report to the City Council by Mr. E. C. Cracknell and Professor Threlfall, were brought into use at the present time without a metallic circuit, the telephones would probably be infinitely more interfered with than by an electric tramway in George-street.
2538. You are of opinion that the general lighting of the city of Sydney and suburbs with electricity would almost seriously interfere with the proper working of the telephones? I would not say that, entirely. It would depend very much on which system of electric-lighting was adopted. I should say that it might very seriously interfere, because in the scheme that was proposed—what is known as the alternating current—that is a system of currents alternating in direction—the alternating current would have a greater effect on the telephones than a direct current.
2539. The electric lighting wires are insulated are they not? Yes.
2540. But for all that there is a certain amount of leakage from them? There should not be.
2541. If the electric lighting wires were run conveniently to the telephone wires, would not the induction of electricity from the electric lighting wires to the telephone wires seriously interfere with the working of the telephone wires? It would distinctly do so. But what are termed "induction" and "leakage" are two very different things. The difference between the two things is this, that the wire may be perfectly

A. C. F. Webb, Esq., M.I.E.E. 21 April, 1896.

perfectly well insulated and there will be absolutely no leakage, whilst at the same time it has an inductive effect on any neighbouring wire. The insulation of the electric light wire may be as strong as you please, and it may be a considerable distance from the telephone wire; but still the effect on what we term "induction," which acts in the air space between, will act on that wire, no matter how strong the insulation, and will act through a considerable distance.

2542. Induction there will be, no matter how well the wire is insulated? Yes.

2543. Well, inasmuch as the electric lighting wire has to carry a much heavier charge of electricity than the telephone wire, the induction must be much greater? Distinctly so.

2544. Consequently the inference is that the telephone wires would be seriously interfered with? Yes; if the system of alternating currents, as proposed, were used.

2545. If the lighting of the city with electricity were undertaken it would be undertaken by the City Council, who would possibly by using that system render the Government telephone system inoperative without incurring any liability? They might easily.

2546. The question to consider at the present time is this: As that is a contingency that is likely to arise, and as electric traction will also interfere with the telephone system, in studying the question now of putting down electric traction in George-street, the matter of providing for a proper circuit for the telephone system must be considered? Yes.

2547. In your opinion the two questions are inseparable? Yes.

2548. And if the telephone system be now made perfect there will in future be no danger from any electric lighting or any other system that may be introduced;—is that your opinion? Yes.

2549. And, no matter what the cost may be, you think that so far as the systems are concerned, now is the time to consider both of them? Distinctly. I may add that at the time that report was prepared I was acting as Mr. Cracknell's assistant in drawing up the report. He considered at that time in conjunction with it the question of a metallic return, and he fully recognised, and often said so, that if that system were adopted, a metallic return to the telephones would also have to be adopted, and he quite contemplated then that the introduction of that system would hasten the adoption of a metallic return.

2550. *Mr. Humphery.*] When was the Sandhurst accumulator electric tramway abandoned? Very shortly after its inception. I think that it was put in in 1887 or 1888, and that it was abandoned about 1889.

2551. Do you know the reason for its abandonment? The reason was the very rapid depreciation of the accumulators themselves. They lasted such a small length of time that the expense of renewing them became prohibitive.

2552. Do you know whether it was properly constructed according to the knowledge possessed at that time? Yes, according to the knowledge possessed at that time.

2553. With regard to the electric lighting of the city—would the effect on the telephonic system be as disturbing as the effect of the electric tramway would be? It is quite possible that it might be infinitely more disturbing.

2554. In what way would it be more disturbing—because there would be the noise of the electric tramway? Well, that should not be heard in the telephone.

2555. Will you explain why the electric lighting of the city will cause a greater disturbance than the electric tram? The principal effect produced would be that of an induced current in the telephone.

2556. There would be a more powerful current travelling along the electric wire? The induced current would be in proportion to the pressure used, and the pressure used in the electric lighting system might be four times as much as that used in the tramway system, and what is known as the alternating current, which alternates in direction, would have a much greater effect on the telephone than a continuous or direct current, such as is used in the tramway system. Induction produced by a system of electric traction is principally due to the differences of electric motive force caused by small variations in the contact of the trolley or overhead conductor, and it might cause, perhaps, a variation of 200 units; but the variation caused by the high tension alternating system of supply might amount, perhaps, to 2,000. So the effect would be proportionately greater on the telephone.

2557. Are we to understand that if the electric lighting wires were carried along George-street, or parallel to George-street, the effect on the telephones would be as great as the electric tram would be? I say it might be very much greater.

2558. With regard to the overhead-trolly system, I suppose it is cheaper to construct than any other system of electric traction that you are aware of? Yes; distinctly.

2559. And is it simpler, both mechanically and electrically? Yes; it is simpler in working.

2560. And its service is equal to the service of the accumulator or conduit system? There is this difference, of course, that whereas under the accumulator system each tram is distinct in itself, under the cable, underground, or overhead electric system. the trams are all more or less dependent on one conductor and a breakdown of that would, perhaps, cause a stoppage of the whole service. That is the main difference between the systems. Otherwise the service, of course, has been proved in a number of cases to be equal to all requirements. In the oft-quoted city of Boston there are 1,000 electric cars running daily, and in a number of cities cable and other systems of tramway have been taken up, and the electric put in; the alteration being based on the experience obtained in other places.

2561. And, as a matter of fact, it has been ascertained that the cost of operating the overhead-trolly system is less than that of any other known system of electric traction? Yes.

Thomas Raw, Esq., Engineer, Government Architect's Branch, Department of Public Works, sworn, and examined:—

T. Raw, Esq. 21 April, 1896.

2562. *Chairman.*] What are you? An engineer.

2563. Where are you employed at present? In the Government Architect's Department.

2564. You deal with all the electrical work there? Yes; all the electric lighting and hydraulic work.

2565. What has been your previous experience? I was trained in the Consett Steel Works for seven years, and also in England, under Sir Wm. Armstrong's chief draftsman, and I was surveying twelve months in this colony on contract work; I have been eleven years in the Government Architect's Office.

2566. Are you competent to express an opinion in regard to any electrical question? I believe so. I have made a pretty good study of the subject. I was connected with what was, up to that date, one of the largest installations ever carried out by the Brush Co.; I was specially told off to watch it narrowly and to become thoroughly *au fait* with the matter so as to take charge of it eventually, and since then I have kept myself thoroughly up to date in all electrical matters.

2567.

T. Raw, Esq. 21 April, 1896.

2567. *Mr. Roberts.*] You know that it is contemplated to construct an electric tramway along George-street, and thence along Harris-street? Yes.
2568. You are acquainted with what is known as the overhead trolly system? Yes.
2569. Do you approve of that system for adoption on the proposed line? Yes, certainly. I see no objection to the overhead system. It is the cheapest to put up, in the first place, and the easiest to maintain afterwards—not necessarily more economical, but you can always see it and get at it.
2570. Do you think that the adoption of that system would interfere with the working of the telephone wires along the route? With a proper metallic return for the tram, it would not, or, at any rate, it would be so infinitesimal as to be almost inappreciable. You could scarcely discern it, notwithstanding that the telephone is the most sensitive instrument that has been invented or devised up to the present time.
2571. Have you seen Mr. Walker's statement? I do not think I have seen it.
2572. He said that it would be absolutely necessary to introduce what is known as the metallic circuit system if this overhead trolly system for the electric tramway were adopted;—do you agree with him that it would be absolutely necessary to have a metallic circuit? I do not agree with him that it would be absolutely necessary so far as the tram is concerned, but it is advisable in the interests of subscribers to the telephone, which is unsatisfactory at present. It is necessary to have a metallic return to prevent cross-talking and overhearing each other's remarks, but not on account of the tram. There are plenty of instances I could quote where they are using the telephone with the ordinary earth return, and by putting in good bonding and a good return conductor for the rails, no inconvenience whatever has been caused to those using the telephone. Neither have the subscribers complained, nor could anyone discern any disturbance, or certainly not more than the telegraphs cause at the present time.
2573. Then you do not think it absolutely necessary that a metallic circuit should be adopted? It is advisable, apart from the tramway altogether. It is not necessary on account of the tram—that is, if you have a good metallic conductor between the rails.
2574. I think I heard you say just now that you regarded the present telephone system as being unsatisfactory? Any telephone system with an ordinary earth return is bound to be unsatisfactory.
2575. Do you think that the time has arrived in Sydney when the metallic circuit system should be introduced in lieu of the earth system? Certainly. They are doing it in London, where they have no electric trams that I am aware of, and they have done it in New York, apart altogether from the electric trams.
2576. We will assume that the electric lighting were introduced—do you think that that would make it still more necessary for the numerous wires that would have to be laid down? I do not think that would have much to do with it, because electric lighting systems are provided with a properly-insulated metallic return. Interference can only be by induction, and that can only take place where the pressure is constantly varying, and in ordinary electric lighting work it is not constantly varying. For electric traction it is quite different. The current is either full on or full off, and that is the cause of induction in the telephone wires.
2577. So, if we introduce electric traction, you think it would be absolutely necessary to have a metallic circuit? For the tram, but not necessarily for the telephone. I do not think it would interfere to an appreciable extent, provided the telephone wires were 30 feet or 40 feet away.
2578. Are you not aware that there are great complaints at North Shore on account of the electric tramways there interfering with the working of the telephone? Yes. There have been great complaints, but, of course, that tramway was not laid down as I hope this one will be. In the first place, it was not laid down as an electric tramway, and in the second place the bonding was not made perfect then, although it may have been made so since, and the telephone wires were abnormally close to the tram-wire. Induction must take place if it is only a few feet away, but if it is 50 feet away I do not think anything could be noticed.
2579. Do you think that under the present earth system those complaints ought not to arise? I do not think that any ordinary subscriber would notice any more interference than he notices at the present time—that is, provided the tram is laid, as I am pretty sure it will be, properly, and with an efficient return. I understand there is to be an efficient return laid between the rails; if so, there need be no apprehension.
2580. Then, am I right in understanding that, irrespective of any electric traction or electric lighting, you think the time has arrived when a metallic circuit system should be introduced in connection with the telephones? Certainly, in the interest of the telephone subscribers. I think they are entitled to a metallic return to prevent cross-talking.
2581. In order to give them an efficient service? Exactly; so that each telephone shall have what you may call an individual system of its own.
2582. Have you gone into figures as to what would probably be the cost of introducing the metallic circuit system for the telephones? It would be very difficult to give an official estimate just on the vague information we have at our disposal. There are so many complications arising as to getting the wires in and out of buildings, and each individual telephone might be so peculiarly situated as to entail a lot of work; but so far as the mileage is concerned, it could be easily arrived at. I estimate the cost at from £30,000 to £40,000; that is, for what is called a perfect metallic return. We could use the Maclure system—that is, having one large wire as a common return for the whole of the telephones—but I am not prepared to recommend that system. It would get rid of any inductive effects from outside causes, but would not prevent cross-talking.
2583. Have you had a copy of the estimate formed by Mr. Walker? Yes; I had this handed to me a few minutes ago.
2584. But you have not had any opportunity to go into calculations? Only time to look at it; but I do not see the necessity for these 13,000 poles.
2585. Can you tell the Committee in detail how you arrive at your estimate of from £30,000 to £40,000, which you say would cover the cost of introducing the metallic circuit system into Sydney? I assume that we have a galvanised iron system—that is, I believe a No. 12 gauge, and it weighs, so far as I can tell, about 160 lb. a mile; but the galvanised iron would only be put up on the main poles, and would not apply to the branches into the buildings. That is more a matter of labour than of material. Mr. Walker estimates for 3,150 miles of wire. That must include all the little branches going from the main posts into the different buildings—the total length of the whole of the wiring from end to end, and not merely what we call the main wire, running across the posts. But this information is very difficult to get at. However,

T. Raw, Esq. 21 April, 1896.

However, we can get copper wire for about £2 15s. a mile, and for a metallic return that would require to be doubled. That would make the cost of it about £18,000. The same poles could be utilised, and the question then would be only a matter of labour.

2586. Are you in a position to say how many poles would be required, or whether Mr. Walker's estimate of 12,900 at £10 each is excessive? It is undoubtedly excessive. There are 6,450 poles already. He has evidently intended to wipe those out, and to put up two sets of poles. Whether he intends one for a go wire and the other for a return, I do not know.

2587. Can you tell us how many poles you provide for in your estimate? For about 600 additional large poles—40-feet or 50-feet poles, at about £9 or £10 each—that is, retaining the present system, but altering the space between the poles. For Oxford-street and other branches, 2,500 25-feet poles might be required. I do not think they are worth more than £2 10s. each complete.

2588. What other items have you in your estimate? I put down 3,150 miles of No. 11 wire at £6 per mile, and 180,000 insulators, which could be got, I think, for about 7d. each, and 85,000 cross-arms, which, I believe, could be got for 6d. each.

2589. Have you allowed anything for altering the switch-board, or do you provide for a new one? I have certainly not provided for a new switch-board, because I do not think it would be absolutely necessary to go in for a new switch-board. It might cost £800 or £900 to alter it.

2590. Mr. Walker has provided for a new switch-board, at a cost of £20,000;—do you regard that as being necessary? It is very desirable, but not necessary. In an ideal system it would be very desirable to have it—it is desirable to have as many luxuries as possible; but I do not regard it as being essential. In Sweden they have the metallic return system and the earth return system working together.

2591. Then, bearing in mind Mr. Walker's estimate of £252,100, which no doubt provides for the system commencing *de novo*, you do not think it is necessary to spend so much money on the work;—how much do you say the metallic circuit should cost? If I were a contractor I should be glad to contract for it at £40,000, and guarantee that there should be no complaints out of the ordinary character.

2592. That would include everything? I would be almost prepared to sweep away the existing system, barring the telephones themselves, and put up all the necessary wires for £45,000 or £50,000.

2593. At the outside, £50,000? I think so.

2594. In what time would you be prepared to carry out the alteration? I do not think we have sufficient telephonic mechanics to put on the work. It might take from two to three years. We are differently situated from what they are in England, where they can lay hands on 200 or 300 skilled men at a few days' notice. We should have to do what we could with the men we have.

WEDNESDAY, 22 APRIL, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Henry Clarke, Esq.
The Hon. John Davies, C.M.G.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.

George Black, Esq.

The Committee further considered the proposed electric tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Thomas Raw, Esq., Engineer, Government Architect's Branch, Department of Public Works, sworn, and further examined:—

T. Raw, Esq. 22 April, 1896.

2595. *Mr. Roberts.*] I think that when the Committee adjourned yesterday afternoon I had been asking you a few questions about the estimate of Mr. Walker, Secretary to the Electric Telegraph Department, when you stated that you thought Mr. Walker's estimate was unnecessarily high, and that you thought all the work that was requisite could be done at an expenditure of about £53,000? That is near enough. I did not say £53,000 exactly. You may say £50,000; of course £53,000 will suit me all the better.

2596. Have you any desire to alter those figures, or to add to the statement which you made yesterday afternoon? No; I do not see any occasion to do so.

2597. Can you tell the Committee in detail exactly how you make out that £50,000—what the various items are? Of course, with a system like this, with all its peculiar ramifications, it would be impossible, without having a plan of the city and the location of every subscriber's telephone, to give a detailed amount, but I can approximate it in this way. We can obtain a cable with forty-eight wires, which is equal to twenty-four circuits—that is, the go wire and the return wire can be purchased at the rate of £3 per lineal mile, from end to end, or, in other words, £150 per mile of cable, consisting of forty-eight strands; 6,300 miles, at £3, will be £18,900.

2598. Will you go through it line by line, showing exactly how you make out the estimate of £50,000? There are £18,900 for that additional cable. There are at present 3,150 miles of wiring. For a metallic return, of course, you must double that, and that means 6,300 miles. Now this in cable form—that is, copper wire, which is superior to galvanised iron—can be obtained at the rate of £3 per mile; that makes £18,900. I reckon that there are about 2,500 telephones within the city area. Those are outside figures. We will assume that it would take, say, £2 for each subscriber to make the connection between the distributing board and the telephone. That would amount, of course, to £5,000.

2599. Are you reckoning that a charge would be made to the subscribers for the altering of the system? I do not think so.

2600. I understood you to say so just now? No; I reckon there will be so many miles of wiring through the streets, and then I reckon it would cost £2 per telephone on the average to re-connect; that makes £5,000. I calculate on having fifty distributing boxes, which may be taken to cost £3 each; that makes £150. Then I take the erection of the main cables at £8,000.

T. Raw, Esq. 22 April, 1896.

2601. Does that include the poles? The poles are already there, and I see no reason why they should not be utilised.

2602. Would these poles carry the extra wire that would be necessary? Undoubtedly. So far as the poles themselves are concerned they are strong enough almost to carry a bridge. The difficulty of what they call overloading is this: they have, say, 100 wires on each pole, but by lengthening the cross-arms they, instead of having three wires on each side, could easily have four, five, or even six.

2603. Do you allow for that extra work in your estimate? It is all allowed for; that was allowed for in the other arrangement. I was going to reckon upon taking down the present poles and putting up steel tubular poles; and supposing there were 3,000 required in the city, at £5 apiece that would mean £15,000—that is, steel tubular poles, with slings or hangers sufficient to carry those cables.

2604. What does that bring your estimate up to? About £48,000. Then there will be some necessary alteration which ought to be made to the switchboard, and I reckon upon 5s. a subscriber. There are, say, 3,000 subscribers at 5s., and that makes only £750. I think I am quite within the mark in stating that it could all be done for £50,000.

2605. Would you have any objection to put it in writing? Certainly, I would put it in writing if desired. The estimates that I have given now are for an entirely different system to that they are working on now. They would have to dispense with the galvanised iron wire altogether, and to run a series of cables of copper wire to what I would call distributing centres; that is to say, from the exchange, say, up to King-street, there would be certain cables, to a distributing board from which all the subscribers within a reasonable area of that distributing board would have their connections made.

2606. Why do you suggest this alteration? Well, it would from an æsthetic point of view be an improvement, and it would certainly be better. The conductivity would be better. The speaking properties of the copper wire would be superior in every way.

2607. How much have you allowed for the switchboard—£7,000? Well; I consider that the alterations to the switchboard could be made at what we call 5s. a number, and assuming that there are 3,000 numbers that, at 5s., would be £750. They might perhaps say that it would be necessary to spend as many thousand pounds, but I think that £750 would make the necessary alteration.

2608. Does that bring the total amount up to £50,000? About £50,000.

2609. What is the exact sum for the alteration of the switchboard, instead of having a new switchboard; Mr. Walker has put down £20,000 for it; I want to know how much you intend to spend? A new switchboard might cost £20,000, but I think that the present switchboard might easily be adapted at an expenditure of £750, or £1,000 at the outside. It is impossible to tell, without actually seeing the switchboard, and ascertaining what alterations would be necessary.

2610. As you have not seen the switchboard, and had the same opportunity of fully inquiring into matters as the head of the Department has, I should imagine that it would be rather difficult for you to form a correct estimate? So far as making an accurate estimate is concerned, it is of course much more difficult for me to do so. But I have seen the switchboard, and am pretty well conversant with the way it is fitted up, and I think it could be easily adapted for the amount I have stated. It is one of those little matters that a man might spend a day over to get one connection exactly correct. It is impossible to say exactly what it would cost. It would have to be a day labour job.

2611. You have a full knowledge of the proposal before the Committee to construct an electric tramway along George-street? I think I have a pretty accurate idea, although I am not thoroughly conversant with all the details. I am afraid I have been under one misapprehension. I understood that there would be a copper return between the rails, but I have been informed that there is not to be. I think it is almost imperative, and, to back up the statements I made yesterday, it certainly would be imperative to put in a copper return. The expenditure is not only advisable, but almost necessary.

2612. In addition to the bonding of the rails? Undoubtedly, there ought to be a copper return.

2613. You think that would be absolutely necessary? Well, desirable. It is not absolutely necessary, because the Board of Trade does not insist upon it.

2614. What would be the advantages of it? There would be less liability to leakage from the rails.

2615. It is an important matter? Yes. Of course if the telephones were provided with metallic returns right through, the question of having a return between the rails would scarcely apply, because there could be no possibility of disturbance through earth currents. There are two disturbances; one is the disturbance caused by induction. If a current of electricity is set up in a wire there is at once an electro-magnetic field generated in the region surrounding that wire—that is to say, that during the time the voltage is acquiring its maximum difference of potential, there are concentric convolutions develop themselves and spread out to a certain distance, but not parallel, proportionate to the differences of potential. If any of those convolutions come in contact with another parallel wire induction immediately takes place in the latter.

2616. Therefore, to cure that you must have a sufficient space separating the disturbing element from the wire—space cures that? Yes; undoubtedly. I should like it to be understood that, even if each of the circuits had a complete metallic-return—complete in itself—induction would occur if they were within close proximity to each other, but only when the difference of potential was varying. If the current was constant, as it would be in electric-lighting work, no induction would take place; but in electric-traction work induction takes place owing to the voltage or the amperage suddenly diminishing and then suddenly regaining its original strength.

2617. From the trolly or from the wheels, or both? It is immaterial. There is a certain volume. What we call "volume" is amperage. If it is passing through a wire at a constant pressure or stream, no convolutions take place. It is only when the current is interrupted—suddenly cut off, as it would be by cutting the motor out of circuit—that the lines of force would begin to come back again. That would cause induction, and the moment the contact was re-formed, or the circuit re-made, induction would take place again.

2618. But sufficient space would cure it—what is that space, speaking in general terms? In the case under review, from 40 feet to 50 feet.

2619. Therefore, the telephone wires must, with the trolly system, be 40 feet away? Yes; it is advisable.

2620. Now, as to the earth circuit? The telegraph and telephone systems both have a common return through the earth. All the currents passing through from either the telegraph or the telephone return

to

to the original source—through the earth. They sometimes intermingle, and that is what is called earth current. The same in regard to the electric trams. The current, in passing through the motor and the rails, is liable to leak before reaching the generating station.

2621. Therefore, we have two matters to deal with—we require to have a metallic circuit to take away the difficulties that originate in the earth, and we require to have sufficient space intervening in order to prevent induction? That is correct.

2622. Will the metallic circuit prevent induction at all? Induction will take place to some extent even if you have the two systems, completely cut off from the earth.

2623. Therefore, you must have the space? It is necessary to have the space.

2624. The metallic circuit deals only with the earth leakage—it does not deal with induction at all? It does not deal with induction.

2625. Therefore, you must have a special space intervening in order to prevent induction? Yes; that is in electric traction, where the current is varying.

2626. Assuming a perfect metallic return for the telephones, is it your opinion that the telephones would still be affected by electric lighting, and by the trolley system on the electric tram? Not if the continuous current system were adopted, which I, of course, would be disposed to adopt in a city like this.

2627. Now, without regard to any system that might be adopted—metallic circuits or otherwise—for electric traction, would not a perfect metallic circuit for the telephones prevent any disturbance? Certainly it would, excepting from induction. So far as electric lighting is concerned, that would not affect the telephone in any way whatever, unless they adopted what is known as the alternating system. That is a system which is adopted for the sake of economy in first cost; but if I were to light the city of Sydney with electricity I should probably work on a high voltage, but on the continuous current system.

2628. What is the proper system of lighting the city with electricity? The continuous current system.

2629. Notwithstanding that the alternating system is cheaper? It is cheaper, but it is only adopted to convey the current for very long distances—for instance, if they were going to bring the current from the Colo River or the Grose Valley, or anywhere like that, they would probably adopt the alternating system.

2630. If within, say, 40 feet of the trolley wires, or within a similar distance from the alternating system of electric lighting, what becomes of the value of your metallic circuit if the disturbances are set up from induction? From induction disturbance would undoubtedly occur.

2631. Then in that case what is the value of your metallic circuit? It would be only of value so long as the tram did not happen to be working, or when the lights were out.

2632. In other words, it would not be a preventive of induction? It would not prevent induction.

2633. Is the position of the telephone wire, whether above or below the traction wire of a tram, material? No, it is not. The question is one of radius.

2634. What is the relative importance of induction and of disturbances caused by earth currents? Induction is a lesser evil, creating a humming sound, but not seriously inconveniencing those who use the telephone, and therefore having dealt by a metallic circuit with the main difficulty you can possibly afford to disregard the minor difficulty. A metallic circuit would completely get over any possibility of cross-talking or overhearing another person's message.

2635. Is there any control over the electric-lighting companies with regard to the system they should adopt? I do not think there is any control over them, but the system adopted by the present electric-lighting companies in Sydney will not interfere with the telephones in any way whatever.

2636. I should like to ask you a question or two about the necessary electric power to work this tramway;—are you aware that it is contemplated to obtain the necessary electric power from the existing power-station at Rushcutter's Bay? I understand they are going to make use of the building, but not of any of the present power.

2637. They intend to erect two extra engines, with a view of obtaining more power there;—the power that is already there is, I understand, to work an extension of the present cable system? Yes.

2638. But the building being there, and they being able to obtain the necessary power by the erection of these two other engines, do you think that is the best plan to adopt for obtaining the power for working these electric trams? If the tramway traction were to cease at George-street, I daresay it would be the best thing they could do, but in view of the probability of the system being extended into the western suburbs, I should certainly have been disposed to put up a new power-house somewhere in the neighbourhood of Darling Harbour.

2639. Why would you suggest Darling Harbour? Because it is the most central point at which they could get water for condensing purposes—not that that is of very much moment; but if the system were likely to be extended on a very large scale it would be very advantageous, I think, to erect an independent power-house somewhere in the neighbourhood of Darling Harbour, so that it would be more central, say, for Newtown, Leichhardt, Balmain, Forest Lodge, Glebe, Waterloo, Crown-street, Queen-street, and Moore Park trams.

2640. That would mean the erection of another power-house? Yes. But I do not know that that need necessarily cost very much money.

2641. The cost would be very much larger than that of using the present power-house at Rushcutter's Bay, would it not? Well, I understand that they are not proposing to utilise anything at Rushcutter's Bay other than the building itself—the floor space and the roofage—they are not proposing in any way to take any of the power from the existing engines; neither, as I understand, do they propose to take the steam from the existing boilers. They are going to put in two new boilers and three sets of engines and dynamos; and if they do that at Rushcutter's Bay, they might just as well put them at Darling Harbour at once.

2642. Would you recommend that it should be put at Darling Harbour at once? As an engineer, I think so.

2643. Do you, as an engineer, believe that it is possible to work a cable line in George-street from Rushcutter's Bay? I believe that no engineer would propose such a thing.

2644. Am I to understand that your only reason for saying that you would advise the erection of a new power-house at Darling Harbour is that it is quite possible that this electric-tram system may be extended to the whole of the western suburbs? Yes, certainly, with that object in view.

2645. If George and Harris Streets alone were being considered, you think it would be better to use the power-house at Rushcutter's Bay? Yes.

2646.

T. Raw, Esq. 22 April, 1896.

2646. You see no objection to that proposition? No objection at all to working it from Rushcutter's Bay; the distance is really nothing.

2647. Do you understand that it is intended to have accumulators or storage batteries at Redfern, with a view of utilising them in case of any accident, or for shunting purposes when the other cables cease to work the overhead system? Well, with regard to the accumulators, I am slightly at variance with the proposers. The accumulators, unless they were made very large, would practically be of no service in the case of a complete breakdown of the engines, unless a very large sum of money were expended in making those accumulators.

2648. Do you not think it is a wise provision to have them in reserve in case of a breakdown of the other system? Well, it would have to be a very temporary breakdown—not for more than a couple of hours—unless the accumulators were made so large that their cost would probably run into £10,000 or £12,000. I am not prepossessed in favour of accumulators, excepting on lines which are very long, or where they are running a service at some considerable intervals—say an eight, or nine, or ten minutes service; but in a line like George-street, where there would be so many cars always in circuit, the variations of load would, comparatively speaking. be very slight.

2649. Have you seen the estimate prepared by the Railway Construction Branch for the carrying out of this work? Yes, I think I did see it.

2650. There are two estimates—one for the roadway, while the other is really for outside electric work? I would assume those to be correct, for the matter is one that could be ascertained beyond all doubt. It is only a question of knowing the price of material and the distance. I am not prepared to express an opinion in detail, but I should be prepared to accept the estimate.

2651. Does it seem to you to be a fair estimate? I think it is rather under-estimated.

2652. What portion strikes you as being under-estimated? I should think that the main cables going from Rushcutter's Bay to Redfern would cost perhaps £8,000, and then there would be the overhead traction wires, the poles, and the fitting up, which I think would cost the balance. I should conclude from this estimate that there was no intention to put in a copper return between the rails, and I should like to point out that I think it is almost absolutely necessary.

2653. What amount do you think ought to be added to the estimate of Mr. Elwell? I should say about £2,000 for a return wire.

2654. Have you looked at the estimate for the roadway? I am not in a position to dispute those figures, or to attempt to correct them in any way, for the Railway Construction Branch know exactly what those matters would cost.

2655. Without having had time to check the figures, you think that, on the whole, that is a very fair estimate? Yes. I think the estimate is all right. It is shown in detail on page 5 of the evidence. They put down £6,300 for the main feeder and return. I guessed £8,000. Of course, I do not know the exact distance.

2656. Do you approve of the roadway that is specified for "the roadway consisting of grooved rails of 83 lb. to the yard, resting on the concrete base which carries the wood-blocking—below the rails in George-street it is proposed to deepen down and give 10 inches of concrete?" Yes; that is correct construction. That is what has been adopted in Birmingham, I think, and also in Glasgow and Dublin, if I remember rightly.

2657. That refers to the George-street portion of the line, but not to the Harris-street portion, which they propose to leave undisturbed;—do you think that is wise? Of course, the same cars would go over both roads, but there would not be the same amount of traffic.

2658. I suppose the traffic would not be so heavy in Harris-street? No.

2659. On that ground, perhaps, you would not think it necessary to make the same road in Harris-street as in George-street? No. Harris-street, certainly, would not require the same road as George-street.

2660. It is proposed altogether to spend a sum of £130,000;—did you notice that? Yes, I saw that.

2661. Having looked through the whole of the items of the proposed expenditure of £130,000, do you think that that is a fair estimate for the whole of the work? Yes; considering the way in which contracts are being let at the present time, I think that would be a very fair estimate.

2662. You think the work could be done for that money? Yes; I reckoned about £100 a chain for George-street, and £99 is put down here. I think it is a very fair estimate all through.

2663. Viewing the matter from all points, have you considered which mode of traction you would prefer—a cable tram or an electric tram? An electric tram, without question. You can adjust the speed of an electric tram to suit circumstances. There might be a slow-going dray in front of it, and you could crawl up behind; then you could get a clear run and make up time. You would also have your car more under control, whereas with the cable you would be limited to a certain fixed speed. You must go at whatever rate the cable is set at, or stop still altogether.

2664. Would an electric tram be less expensive to work than a cable tram? Yes, I think it would. In the case of a line like George-street it certainly would. If the country were very hilly, the cable, I think, would beat it up to certain limits. So much of the power of the engine is absorbed in hauling the cable without a car upon it that if it has a very light load the cable system is expensive to work; whereas with electric traction you only use power proportionate to the amount of work you are doing—that is to say, if you have no cars running you are not using any power.

2665. But it is a fair thing to assume that in the event of a tram-line being put down there would be plenty of work for it in George-street;—taking it for George-street alone, would you prefer a cable or an electric tram? An electric tram, certainly.

2666. You still adhere to the electric traction? Yes; I think a cable is only justifiable in a hilly country where the contour varies suddenly, and there are long heavy grades.

2667. *Mr. Humphery.*] With regard to the accumulators at Redfern, did you express the opinion just now that they are unnecessary? They are unnecessary.

2668. Are you aware that accumulators are used on the Military Road, North Shore? Yes; but in the case of the Military Road, North Shore, there is only one car running under ordinary circumstances, and the current is either all on or all off; consequently there would be a varied strain on the engine. When the motor was thrown out of circuit the load would be suddenly taken off the engine and it would be unable to take up the variations quickly enough. It is almost equivalent to an engine

T. Raw, Esq.
22 April, 1896.

engine which is dragging its maximum load. If the drawbar suddenly breaks the locomotive runs off; but, in a case like that of George-street, the variations could not possibly occur to the same extent; that is to say, it would be impossible for all the cars to be out of circuit at one and the same time.
2669. Might it not so occur with Harris-street? Well, it being a continuous circuit, Harris-street would be balanced to a certain extent by the constancy of George-street. Supposing there were twenty cars running down George-street, it would be impossible under ordinary conditions for those twenty cars to be all taking current at the same instant; during the time that some of the cars were running others would be stopping, or during the time that some were going up Brickfield Hill, taking all the current they could get, others would be going down without current. To strike a general average under ordinary working conditions, I think that the amount of current required would be fairly constant, and I do not think that accumulators would be of very much service.
2670. Although you have expressed the opinion that accumulators would be unnecessary at Redfern, you are of opinion that accumulators on the Military Road are an advantage? They are a distinct advantage on the Military Road. I admit that. They are quite an innovation.
2671. Are you aware if accumulators are used in the United States to any extent? I do not think so. I know they use them at Douglas, in the Isle of Man, and Dr. Hopkinson recommended the use, of them from Leeds to Kirkstall, and from Kirkstall to some outlying suburb, but the distance is about 7 miles, and it is a seven and a half minutes service. They would run that service with three cars, and with three cars in a journey of 7 miles, it is not only quite possible, but also very probable, that those three cars would all be taking current at one and the same time. Assuming that each of those cars would take 33 horse-power, it would be quite probable that at one particular instant 100 horse-power would be suddenly demanded, and it would be equally probable that 100 horse-power would be suddenly out of demand.
2672. For a long-distance electric tramway, the accumulators might, in your opinion, be necessary, but having regard to the fact that there would be about thirty cars used upon the proposed tramway, the accumulators are unnecessary;—is that so? They are unnecessary. But there is no great harm in using them.
2673. There may not be any great harm in using them, but are you aware there is considerable cost attached to their use? They have their advantages, but there are disadvantages connected with accumulators, and one disadvantage is that you cannot get out more than 75 or 80 per cent. of what you put in—that is to say, each cell requires two and a half volts to charge it, and you cannot possibly get more than two volts out of it; therefore, the waste is from 20 to 25 per cent. But against that, in the case of shunting, or a temporary breakdown, or an abnormal demand on some portion of the running, the accumulators might be of some slight advantage.
2674. Would the advantage compensate for the cost and the loss of energy? I do not know exactly what sized accumulators are going to be adopted. I have no idea what the cost will be. If they are going to use a voltage of 550 or 600 that would necessitate 300 cells; but, then, these cells might be made of any size—of thirty plates, or they might go up to 150 plates each. The cheapest price they could be obtained at would be £5 each, so I think there would be £1,500 down for accumulators.
2675. In your opinion, in connection with the George and Harris Streets tramway, that proposed expense might be saved? I think it might be saved.
2676. As to the proposal in connection with the electric tramway to use the power for lighting George-street, do you see any objection to that? No objection whatever.
2677. In speaking of the copper wire return between the rails, will you explain how the wire would be placed, and how you arrive at the cost of it? The smallest size that I would advise would be ½-inch rod, and a ½-inch rod weighs 770 lb. per 1,000 feet. The length of the line is about 6¼ miles. It would be better to have a copper wire between each pair of rails. This wire might cost £10 per 1,000 feet, and that would be a little over £200 per mile, and for 6¼ miles that would be, say, £1,500, including laying.
2678. Would that wire require protection in any way? I do not think so.
2679. Would you lay it in the earth or in a casing? I do not think it would require any particular protection, but there would be no harm in putting it in iron pipes underground.
2680. That would mean an additional expense, would it not? Well, in a large job like this the cost of the piping would be very small. It is only 6d. or 7d. a foot run, and that is not very much in a job of this size. I do not think it would require any particular protection. The copper wire might safely be laid between the rails, underneath the wood-blocking, or along the rails, or underneath the concrete, or the footpath, or anywhere else.
2681. Do you consider that it is absolutely necessary? It would be absolutely necessary in order to obviate any disturbance of the telephones where they still retain earth returns.
2682. Assuming that the telephones were supplied with metallic circuits, would this return copper wire be necessary? No; it would not be necessary.
2683. Are you aware whether metallic circuits or earth returns are used in connection with the Melbourne telephone system? I am not positive, but I should be inclined to believe that earth returns are still in use there. I cannot be definite upon that point.
2684. How long is it since you visited Melbourne? About two years ago, but I did not investigate that particular point.
2685. While there, did you ascertain whether the electric lighting interfered at all with the telephonic system? No; I did not go for any special object, but simply as a visitor.
2686. Have you not made it your business since then to ascertain? No; but I should be inclined to think that the electric lighting did not affect the telephones.
2687. Why do you speak so emphatically with regard to the non-effect of electric lighting on the telephone system? Because I know that the current, unless it be continually interrupted, cannot possibly cause induction.
2688. Would it not have been better to ascertain by inquiry whether, having the electric lighting in operation in the city, would or would not cause a disturbance of the telephonic system by earth return? It would be very easy to ascertain that.
2689. Can you ascertain that? Yes, I could find that out; but I think I may venture the opinion that the electric lighting does not interfere with the telephone.

T. Raw, Esq. 22 April, 1896.

2690. Is that consistent with the evidence that we have had as to the effect of electric lighting in the city upon the telephonic system? I think I have maintained right through that electric lighting would not affect the telephonic system.
2691. Unless it was an alternating system? Yes; but I do not suppose that they have the alternating system in Melbourne. They may have, and if they have it may affect the telephone.
2692. You mean that a proper electric light system in the city would have no effect whatever upon the telephonic system with an earth return? Certainly not. There can be no possible connection between the electric lighting system and the telephone with an earth return, for the simple reason that with the electric lighting system, it is not made to earth at any point whatever. An electric lighting system must of necessity have what you call a metallic return. In the electric lighting the negative wire is always of the same size as the positive wire, and they are always perfectly insulated from the earth, so that it can have no possible effect on the telephones.
2693. Then we may leave out of consideration altogether the effect of the electric lighting of the city on the telephonic system as it at present exists? I think so.
2694. With regard to the accumulators, could they be attached to the cars after the traction system was in operation? I understand that the cars under this system would be made merely strong enough to carry the passengers.
2695. They must be part of the original equipment? Yes.
2696. Can you tell the Committee whether the electric power that it is proposed to use for driving the trams will admit of being used for electric lighting purposes as well? Yes; that could be done, certainly.
2697. If it were found advantageous to place electric lamps on the top of the proposed standards in the middle of the street could the electric power that drives the trams be used for electric lighting purposes? Yes.
2698. I think you said just now that electric lighting required a steady flow of electricity through it to produce a light? That is correct.
2699. Well, inasmuch as electric traction will have an intermittent or broken current, how would that affect the lighting? I do not think it would be proposed to light from the traction wire.
2700. It is an important question in my mind at the present moment whether the same power could be used for that purpose? It could be used, but not satisfactorily.
2701. I mean by using the same wire? That could be done, for at present they light the cars, but I do not think it would be attempted.
2702. Do we understand that the proposal as at present before us would not provide for electric lamps if they were erected on the standards? I do not think so. I would not do it. It would have the effect of prejudicing the electric lighting in the eyes of everyone, for the simple reason that every time the motor was put either in or out of circuit the light would flicker and jump. Therefore, I would not propose it.
2703. In other words, it could not be done, because an intermittent light would be of no value for the city? I would never propose it.
2704. Any system of lighting, whether by gas or anything else, must be constant? Yes.
2705. And if the electric light were taken from the traction wire, it would be intermittent? Yes.
2706. And if it were thought well afterwards to erect lamps on those posts, electricity would have to be brought in by a separate wire? Yes; I should certainly propose that, for the reason that the light would be required long after the trams ceased to run.
2707. Do you think it is desirable to light the streets of the city with electricity? I think it would be a wise thing to do, and that is why I propose that the power-station should be at a central point like Darling Harbour, so that they could generate there all the electricity required for the lighting of the streets, Redfern Railway Station, the Eveleigh workshops and shunting-yards, letting it all come from one centre.
2708. Are you acquainted with the amount of power it is proposed to add to the power-house at Rushcutter's Bay to provide for this electric traction? Nothing further than I can gather from this evidence, viz., that they propose to enlarge the plant to a certain extent, but not very much.
2709. Would that power be enough to produce sufficient electricity for the electric lighting if there were a proper cable there to take it? Yes; but I do not think it would be proposed to light George-street from Rushcutter's Bay.
2710. I know it is not proposed to do it, but I want to know if it is a possibility within the four corners of the proposal? Of course, it is quite possible to light George-street from Rushcutter's Bay, but it would require a separate generating plant.
2711. And a separate cable? Certainly it would require separate cables.
2712. It could be brought either overhead or underground? Yes; either overhead or underground. It would be preferable underground, on account of the large cables that would have to be carried. The loss of voltage would be very great with an ordinary incandescent system.
2713. Supposing that the electric lighting cable ran along the same standards as the power for the traction wires, would there be induction to operate against the traction? It would not affect the traction in any way.
2714. You are very clear that we must not expect that we are going to derive the street lighting from this electric traction? Certainly; I am quite positive on that point.
2715. *Chairman.*] You expressed a definite opinion yesterday in regard to effective bonding in copper wire to prevent the telephones from being affected by the trolly system of tramway? Yes.
2716. Would you like to modify that opinion at all? No: I should like to emphasise it. I think I said that with well-bonded rails, with a good efficient copper return—say, $\frac{1}{2}$ inch or $\frac{5}{8}$ inch in diameter—the leakage would be so slight as not to materially interfere with the telephonic system as it at present exists.
2717. What does your opinion rest upon? I have two or three cases here.
2718. You have read the extracts, and I suppose you could epitomise them? The article was written by a great authority.
2719. What paper are you quoting from? The *Electrician* of 10th January, 1896—published in London on that date, but of course only just arrived here. It says that in the case of Geneva the telephone wires are for considerable distances run along the tramway in sections up to 660 yards, parallel with the line, and at distances in some cases not exceeding 3 feet, and all the telephones have earth returns. The same thing

thing applies at Basle, and also at Mulhouse. Those are two cities in Alsace. They have overhead telephone wires with earth return running for long distances parallel with the tramway. They are from 40 feet to 50 feet apart—that is, from the traction wire. They have had absolutely no trouble whatever with them. At Geneva they find that even at the public or private telephone stations in close proximity to the tramways, the disturbances are so insignificant as to be practically nil; an observation which is, moreover, confirmed by the fact that in neither of those towns has the working of the electric tramways given rise to any complaint whatever.

2720. Have they a metallic circuit there? Certainly not; they all have earth returns.

2721. What steps were taken in order to create a perfect return? With regard to the tram, the rails were bonded at the joints by copper wires fastened through and soldered to the web, and an uninsulated copper conductor was laid between the rails throughout the whole length of the line.

2721½. Is that an expensive process? No; I think I gave the price at about £1,500 to lay down a copper return in this particular case.

2722. For George and Harris Streets? Yes.

2723. All the steps necessary to place the system under consideration on exactly equal terms to those you have quoted could be carried out for £1,500? Yes. I am prepared to go perhaps a great deal further than I understand others have gone; that is to say, that this line could be so constructed, without any unreasonable expenditure of public money; that no interference, or no further interference would be caused to the present telephone system than exists at the present time, without bothering with metallic returns. There was another case—the Mont Saleve Electric Mountain Railway in Geneva. On this line, worked with a slide contact and an outside conductor rail, simple electrical bonding at the rail joints, with a separate return conductor, sufficed to stop the telephone and telegraphic disturbances at first experienced, and the doubling of the wires was dispensed with.

2724. You have seen the evidence given with regard to that point? I have seen some of the evidence.

2725. You have seen Lord Kelvin's opinion? Yes.

2726. Is he not one of the ablest electricians of the day? Yes, he is.

2727. The highest authority perhaps? He is certainly one of the highest authorities.

2728. His statement, made two or three years ago, is in direct antagonism to what you now inform us is the fact? I do not think it could be quite as antagonistic as that.

2729. Have you seen the evidence on page 93 of this inquiry and the following pages? Yes.

2730. Is that not antagonistic to the opinion you have now expressed—a considerable number of expressions of opinion from able men? Lord Kelvin's evidence was given on 23rd December, 1892, since which time there have been immense improvements made in the mode of maintaining a uniform contact between the trolly and the wire. There is no doubt that at that particular time the trolly gave a great deal of trouble, and Siemen's and Halske's aluminium sliding contact bar was adopted. That is a continuous sliding contact, and it is said to have completely got over the difficulty.

2730½. But the wheels lose contact too? Yes; the trolly system is inclined to lose contact, but they have so much improved it in the last eighteen months that you might almost call it a continuous contact.

2731. Was it held by the ablest electricians until quite recently that a metallic circuit was essential if electric traction were used? I believe that opinion was maintained.

2732. Have you seen anything that causes you to believe that that opinion has been altered? Well, the cases that I have quoted. It has been shown conclusively that by maintaining a good contact on the trolly wire, and with a good metallic return between the rails, no disturbance is caused to the telephone.

2733. And in support of that position you quote several cases? Geneva, Basle, Mulhouse, and Mont Saleve.

2734. Who writes the article? Du Riche Preller.

2735. What is his status? He is one of the greatest authorities that we have.

2736. Are you aware of the action that has been taken by the Electric Telegraph Department here with regard to subways? I have a citizen's knowledge—that is all—no official knowledge.

2737. Does the construction of a subway absolutely bind that Department to metallic circuits or not? Yes; that is, for successful working, it certainly does.

2738. The wires, being placed underground, must have metallic circuits? To be a success, certainly.

2739. Will the wires proposed to be placed in these tunnels be a failure without a metallic circuit? Not exactly a failure, but they would not be successful, and I do not think that they would put them in a subway without using a metallic return.

2740. Is there any city in the world where they have underground wires without having a metallic return? No, I do not think so; for anyone who would go to the expense of an underground tunnel would not stick at the cost of the return wire. I think I may safely say that it is absolutely necessary, and that it would be merely fooling with the thing to go to the expense of putting down a tunnel and putting in cables and then to spoil it by not making it perfect.

2741. Do you think then that the Department here is bound to put in a metallic circuit? I do not know what their intention is, but I think that if they do not put in metallic returns they will have a great deal of trouble. I would not like to go so far as to say they could not work the telephone without it.

2742. But you believe it would be defective? It would be unsatisfactory.

2743. And having incurred the large expense of the tunnel in the first instance, no wise Department would leave the work inefficient; it would be absurd—is that your idea? It would be absurd.

2744. Therefore we will have a metallic return here, anyhow? Yes; I think so.

2745. Do you think that in our telephone system we should have a metallic return? Certainly; in the interests of the subscribers we should have a metallic return. It is anything but satisfactory now. A metallic return should be laid down irrespective of any trams. If a tram had never been thought of, it ought to be done.

2746. In all or most large cities is there a metallic return? Yes; I do not think that any telephone company would now think of putting up telephones without including in their estimate the cost of metallic returns. London has no electric trams whatever, and there is a metallic return there, and Paris has a metallic return right through; so have Marseilles, Zurich, Boston, Glasgow, and every large town.

2747. You think that the change to a metallic return is sure to come here? It ought to.

2748. And, if that be so, it ought to come soon, to save expense? I do not know whether it would make much difference to the expense whether it was done this year or three years hence. The price of material and wages will not alter much.

T. Raw, Esq. 22 April, 1896.

2749. Have you again looked through your figures with regard to the statement you previously made in reference to Mr. Walker's estimate for a metallic return? Yes; and I think I am on safe ground in saying that we could make a very efficient metallic return quite up to date—no tinkering with the job at all—for the sum I have stated.
2750. How much was that? £40,000 I think I said.
2751. You have no desire to qualify that in any way? I do not see any occasion to depart from my original figures in any way.
2752. *Mr. Humphery.*] The telephone wires placed in the tunnel will be defective, whilst the wires above ground may continue to be efficient, if the former are not supplied with metallic returns? Yes; that is correct. Although the wires overhead might continue to be efficient, those underneath would not be so efficient; they are too near the earth.
2753. *Chairman.*] How long would it take to put this metallic return in, should the Committee consider it necessary? Provided the material were already to hand, and sufficient labour were available, it could be done in a comparatively short time.
2754. Say in two or three years? Two years would be the outside.

THURSDAY, 23 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

John Pope, Esq. (Messrs. Farmer & Co.), sworn, and examined:—

J. Pope, Esq. 23 April, 1896.

2755. *Chairman.*] What are you? A merchant, and member of the firm of Farmer & Co.
2756. *Mr. Black.*] How long have you been in business in Sydney? Forty years.
2757. You have, then, a fair knowledge of the requirements of the city and its traffic? I think I have.
2758. Do you think that the running of an electric tram in George-street would interfere with the business carried on in that thoroughfare? I do.
2759. Can you give the Committee any detailed reasons for thinking so? I think, from observation, that George-street, being comparatively only a narrow street until it comes up to the Town Hall, is almost inadequate even to the passenger traffic of the street by vehicles, independent of the heavy goods traffic which of necessity has now to be carried over it. It appears to me that in the past no regard has been paid to diverting the heavy traffic of the city, necessitated by the conveyance of merchandise from the wharfs and other places to the outlets of the city inland—that those necessities have not been considered as they should have been in the past. There is, more particularly in George-street and Pitt-street, a tremendous amount of traffic of heavy luggage and merchandise of all classes, as well as produce, and, what is worse, some of it is of a most offensive kind—I mean offensive in this sense, that I consider that a load of sheep skins or bullock skins or anything of that sort being carried along George-street at any time between 9 in the morning and 5 in the afternoon causes an offensive smell to anyone who gets near them. I have experienced it many times. I have travelled over almost all the world. I have been on every continent, and I believe that such an offensive thing would not be permitted in any city in the world except in this in some respects very well disposed city towards those who have the command of it.
2760. You think then that if a tramway were constructed in George-street it would interfere with business because it would add to the volume of traffic already there? If the same traffic remained there it would simply be a perfect block to traffic altogether.
2761. Have you never considered that the construction of this tramway might mean the substitution of one form of transit for another? I can see that it might be so. I can reasonably suppose that if the trams were there a smaller number of omnibuses would be required to compete with the traffic in the street; at the same time, I think that to put anything like a tramway in George-street would be almost an act of injustice to the mercantile people of Sydney who trade in George-street, as it was in Pitt-street some thirty years ago. I think it is nearly twenty-five or thirty years since we had a tramway in Pitt-street. It was very bad, and, as a resident in the street, I, with other gentlemen who took a great interest in the matter, tried to get that tramway removed, and we were sufficiently powerful in ourselves, in argument alone, without any other influence acting on the powers that were then in existence, to get that tramway taken up, because its removal was a matter of necessity to relieve the ordinary traffic of the street and give it more freedom.
2762. Is it not a fact that that tramway was so ill-constructed that it was almost impossible to drive a vehicle up and down the street—were not the rails raised above the surface of the thoroughfare? I think you may possibly be right in that, though I cannot remember it now; but, at all events, in my opinion, any vehicles that must command a certain amount of the street are objectionable in such thoroughfares as we have in Sydney.
2763. Do you not think that a very large proportion of the traffic in George-street is omnibus traffic? A large proportion is, but there are more cabs than omnibuses running.
2764. May you not at almost any hour of the day see three or four 'buses proceeding in one direction along George-street, sometimes two or three abreast? Possibly; I have seen two abreast many a time.
2765. Do you not think it would be an advantage to the traffic if, instead of two or three vehicles all running in one direction at one time, sometimes two abreast, and sometimes racing one another, that portion of the traffic in George-street which has to do with the carrying of passengers at low fares were confined to one part of the roadway? I scarcely think I have realised your question.

J. Pope, Esq. 23 April, 1896.

2766. Supposing you substituted for that form of transit which carries passengers at low fares in George-street, and which is carried on indiscriminately by numbers of vehicles, of which two are sometimes running abreast, a form of traffic which was always confined to one course, and could not deviate from it, do you not think that it would have a beneficial influence on the heavy traffic of the city, and leave more room for private vehicles and drays, which often takes up the width of the whole street? No; I do not think so. I think that the King-street cable tramway, as far as I have seen it, has been a very great obstruction to the ordinary vehicular traffic of that street, and is also more dangerous than any vehicles drawn by horses, or anything of that sort in the street. I further think that Oxford-street is another instance. It has shown to me most clearly that, ever since the tram was run up Oxford-street, it has been the most detrimental thing ever put there for the residents of the street, as well as being dangerous to the inhabitants generally.

2767. Of course we all have different experiences, but as one who drives a good deal about the city, I would rather drive in Oxford-street or Elizabeth-street than in George-street at any time? Well, if you are fond of slow driving it does not matter which street you are in. You cannot get along fast anywhere. I wanted to go to the Circular Quay yesterday, in order to go by boat to North Shore. I got into a cab somewhere in Market-street, near George-street, and thought that I should catch the 12·30 boat, but I got behind a four-horse trolly loaded with sheepskins, which I estimated at the rear was 8 feet wide, and until we had passed the General Post Office and were almost down to Hunter-street, my cab could not get from behind that load of sheepskins.

2768. Do you think that if there had been a tramway in George-street you would have been longer delayed behind the sheep-skins? I think the sheep-skins would have blocked the tram altogether. They certainly would have done so if they had been before the tram as they were before my cab. There were four horses drawing the load along, and they would not go fast.

2769. Do you not think that there should be some regulation of the traffic of the city which would attempt to graduate the traffic and shunt off the heavy loads of merchandise, such as you speak of, into some of the less frequented thoroughfares? I do think so, but at the same time I am perfectly sure that the present Transit Commission will never do it, and until the City Council get the command our streets will be hampered as they are now. I have no scruples in making that remark.

2770. Do you think that the tramway would interfere at all with the loading or unloading of goods in George-street? Undoubtedly. There are many concerns in George-street for which heavy merchandise has to be taken down lanes or openings to the warehouses, and if these loads had to go up on one side of the street and then to cross the tramway they would be delayed sometimes by the trams, and at other times the trams would be delayed by them. I think that more freedom should be given to the residents of the street rather than to block it by anything like a tramway where the street is so narrow as not to permit of a four-wheeled dray, with, we will say, two horses, turning, without having to cross the tramway. If they could turn without having to go to the other side of the street to do so it would be better.

2771. Do you not think that the tram-cars would have to respect the rights of vehicles to cross the road just as much as omnibuses do now? I understand that the tram-cars have to give way to other vehicles.

2772. Do you not think that that would get over the difficulty you speak of? No, I do not. I do not think you would find that the drivers of vehicles would at all consider the trams, especially if they knew the trams had to give way to them.

2773. If that were so, there would be no interference with private vehicles? No interference with private vehicles in that sense, but there is no doubt that the trams would create more traffic in the street; and it is my conviction that George-street is a most inadequate street to have added to it any vehicular traffic in the shape of a tramway.

2774. If the construction of the tramway should prove to mean only the substitution of one class of traffic for another, and if owing to the increased comfort for passenger traffic to be obtained in the trams as compared with the omnibuses, the omnibuses were to a very large extent driven away from George-street, do you think that there would be that interference with the business of the city which you fear? Yes; I think that the tramway would interfere with the business of the city, because the cabs must he very much considered. A George-street tramway would not take all the mercantile men of the city from some places to others to which they have occasion to go so frequently. Take my own case. Sometimes I start out in a cab in the morning, and I say to myself, "I have an hour's run to do." The first place I went to the other morning in a cab was Metcalfe's bond; next I went to the Exchange; then I had to go to Castlereagh-street, and then across to York-street. In going to such places I notice that the cab has considerable difficulty in getting along owing to the traffic of the streets, especially at crossings, where perhaps two or three vehicles have the lead of you, and you are ordered to stand. While sitting in my cab I see two omnibuses, two drays, and perhaps a four-wheeler go by, and I have to sit in my cab and wait, and say to myself, "My time, of course, is no object; all these interests must be served." It shows to me that the traffic of our streets is so immense at the present time that there is only one way out of the difficulty, in my opinion, and I do not hesitate to say that the Transit Commission should be done away with, and the matter of the regulating of the streets should be placed in the hands of the Municipal Council of Sydney. Then we should find that heavy loads of merchandise would be conveyed through streets like Clarence-street, Kent-street, and Sussex-street, where passenger traffic, not existing to any material extent, would not be interfered with by the conveyance of those goods.

2775. Do you not think that the difficulties and delay to which you object are inseparable from the traffic of any large city whose thoroughfares are contracted? Certainly they are.

2776. Do you not think that a city railway, which would carry goods to the water's edge, by lessening the amount of heavy traffic in the streets, would very largely obviate the now congested traffic in George and Pitt Streets? Yes, I do; and to the last day of my life, so far as I am able, I will advocate the extension of the railway to the Circular Quay, or at all events a horse-shoe railway round the city, by which passengers could come into or go round the city without having to change carriages. I go for a city railway, and I have no hesitation in saying that in any other city of the same magnitude or of half the importance of Sydney a railway would have been constructed many years ago. Why we are delayed in this matter I cannot understand, and I hope that this inquiry may lead to the railway being constructed.

2777. Do you think that this tramway would interfere with your own business? No; I look upon it as a public matter much more than a private one.

2778. Do you not think it is possible that it might benefit business in George-street? No.

J. Pope, Esq. 23 April, 1896.

2779. What are your reasons for not thinking so? Because there are ample means of transit for all the people who want to go to George-street now, and I do not see that this tramway would in any way benefit business in George-street. I think it would tend to lessen the rents and the values of property in George-street, if you were to put a tram there, and I think it would be a violation of all the good which former men in this Colony have effected in that thoroughfare if it were now taken for a tramway. Let us have a fair roadway. Take the case of London, where omnibuses, cabs, and other vehicles run all about the city, and the underground and other railways convey traffic from here and there to every other place, and the city of London goes on. The city of Sydney is situated to-day much as the city of London was forty years ago. London then simply wanted some means of diverting the passenger traffic of the streets which was too much, in addition to the merchandise traffic, a large amount of which pervaded the streets of London.

2780. We are considering Sydney? So we are; but Sydney is situated much the same as London was forty or fifty years ago, and the people there had to devise means of dealing with the traffic.

2781. Do you consider that the lessening of rent is an unmixed evil? It is for capitalists.

2782. I was looking at it from the standpoint of those who have to pay rent? I do not think you will get the rents much lower.

2783. Would you favour the construction of a single line of tramway up George-street with a return line down Pitt-street? Most certainly not.

2784. I am afraid that nothing but a flying-machine would suit you? Then you must fly by rail round Sydney in a horseshoe shape. There is not a doubt in my mind that as we are situated, nothing but a railway will be suitable for the city of Sydney. We have already one tramway which fortunately runs through streets where traffic is not very much interfered with by it.

2785. Do you not find any interference with businesses on account of the noise of the omnibuses? Oh dear no; especially in those streets where the Corporation have had the wood-blocks taken up and put close together. The noise is prevented by that means.

2786. Your business premises are rather favourably situated, are they not, they being a little back from the thoroughfare? I should be very sorry if I did not consider myself in the thoroughfare.

2787. But you have a colonnade between you and the thoroughfare? You mean in Pitt-street. We should not experience much inconvenience from noise in Pitt-street. It is a capital street now that it has been re-laid, and I am quite satisfied.

2788. Then, personally, you have no objection to the noise of the omnibuses? No.

2789. But you are well aware of it? Yes. I sit on one or two directorates at the north end of Pitt-street, where the noise is so great that at times we have to look at each other and wonder who is talking.

2790. Then, you do not take into consideration as an extenuating circumstance on behalf of the tramway that it would substitute an almost noiseless traffic for one that is excruciatingly noisy? I do not think the advantage is paramount to the inconvenience we should suffer.

2791. But is it not a circumstance that ought, with others, to be taken into consideration—anything that would lessen the noise of a great city? Anything that would lessen an evil ought to be taken into consideration.

2792. Do you not think that the noise of a great city has a great deal to do with public comfort and public health? I suppose it has; but very few people reside in the city now, I apprehend, compared with the numbers that formerly did.

2793. But if a man is engaged in the city ten or twelve hours a day, a continual disturbance must have some prejudicial effect on his nervous system, especially if he be not a very strong man? Then he should not live in a much frequented thoroughfare, or where there is much traffic.

2794. Supposing that he is an employee, and has to live in it? Well, we all have to submit to our fate. It is my fate to live in a thoroughfare where there is a great deal of noise and traffic, and I do not suffer any inconvenience therefrom.

2795. And you do not think, then, that there are are any others who are likely to suffer? There may be some, but I think they would be very much in the minority.

2796. *Mr. Davies.*] Are you of opinion that the electric tram would be a fair and reasonable substitute for a city railway? Not at all a substitute.

2797. Then you are entirely opposed to anything short of a railway? I am.

2798. You are one of those citizens, residents on the line, who for a number of years have taken a very active part in agitating for an extension of the line into the city? I am.

2799. And you have not altered your opinion? I have not.

2800. You see a still greater and more pressing necessity for the extension of the railway into the city than existed some years ago, when you first took up the agitation? I do.

2801. Do you favour an electric tram with overhead wires, and posts in the centre of the road and on the side walks, to carry the electric wires? I do not favour it—not in George-street, Sydney.

2802. Then if you are opposed to the electric tram, would you favour a steel wire cable tram, something of the same character as we have on the King-street-Ocean-street line? No; I should not favour any tramway in George-street, Sydney.

2803. Are you of opinion that the present 'bus traffic system is sufficient to meet the requirements of the travelling public between the Railway Station and Circular Quay? I do not think it is.

2804. You think that the railway is the only solution of the difficulty? I think that as our city is situated, the only policy to be adopted in the interests of the city of Sydney, its residents, and its mercantile accommodation, is to have a railway to the Circular Quay of a circular or horseshoe shape, by which the traffic could be taken round one way and back the other.

2805. I think you stated just now, in answer to Mr. Black, that the effect of laying down a double line of rails in Oxford-street has been to depreciate the value of property there? I think so. That has been my opinion for years.

2806. It was a very great business thoroughfare prior to the laying down of those rails? It was.

2807. And a great deal of the traffic that carried business to that street has been driven out of it? I think so.

2808. You regard George-street, especially some portions of it, as being too narrow for a double line of tramway? George-street in some places is very much too narrow.

2809. You know the width of the street immediately opposite your own property in George-street? Yes.

J. Pope, Esq.
23 April, 1896.

2810. Would it be fair to the tradespeople to lay down two lines of rails in a narrow portion of the street such as that opposite your own building? I do not think it would.
2811. If the tramway were constructed as proposed, do you think that it would relieve George-street of much of the present 'bus traffic? I have no doubt that it would take a considerable portion of the traffic which is now given to the 'buses. I feel sure that it would also relieve the street of some of the cabs that now run along it, but I do not think that the convenience of the public generally and city requirements would be met by a tramway along George-street, as compared with the present means of traffic by omnibuses and cabs, and especially if the heavy traffic were taken out of the street.
2812. If the 'buses are able to compete at the present time with ordinary trams running to the Railway Station and other points, the Commissioners charging a fare of 3d., and the 'bus proprietors charging only 2d., would it not be likely that the 'bus proprietors would continue to run their vehicles at a lower rate than that at which the Commissioners could run their trams? I should think they would be able to run at about the same rate.
2813. The only great relief we could get for the city would be by means of a railway to take goods to the water's edge, and to carry passengers and distribute them in all parts of the city? That is so.
2814. That is the only thing which you think would meet the requirements at the present time? That is my opinion. As the city of Sydney is now, we only want to remove the heavy traffic from the streets, and the present means of transit would be adequate independent of a tramway.
2815. Do you think the construction of an electric tramway would relieve the congested state of George-street, caused by the 'bus traffic? I do not.
2816. Do you believe that the tens of thousands of people who travel by rail daily would be satisfied with the substitution of an electric tramway along George-street in lieu of a railway? I should think it would be about equal. I think that the railway passengers as a rule would be satisfied to travel by tram, provided the tram set them down somewhere near where they wanted to go. Coming into town as I do a little before 9 o'clock in the morning, I see the omnibuses are all crowded—the people seem to take to them—and the trams are also very fairly supported. I do not know that the trams would take away all the 'bus traffic in George-street, but I think that they would undoubtedly interfere with the omnibus traffic in that particular street.
2817. *Mr. Trickett.*] I understand that you are strongly in favour of an extension of the railway into the city, and of the management of the street traffic being vested in the City Corporation? Those are two points undoubtedly which I have uppermost in my mind. I think nothing else will do really well for the city of Sydney, and tend to its future advancement other than the extension of the railway round the city and the removal of the heavy goods traffic from the principal streets, such as Pitt-street, George-street, and York-street.
2818. In advocating that the traffic should be under the control of the City Council, have you any precedent for that;—you have travelled a good deal—can you tell us what prevails in London with regard to the management of the street traffic? I scarcely know now.
2819. Is it not under the control of the Police? I am informed about London only by what I read in the *Times*, the *Citizen*, and other papers, and I do look a little bit at public matters in that way. I think that they have acted very wisely in London, and set us an example which is worthy of our copying. They have two circles of railways—the inner circle and the outer circle—which take nearly all the passenger traffic, whilst the streets are also relieved of the heavy traffic from the wharfs and docks very materially by those underground railways. Why cannot we do a similar thing here. In a smaller way we are situated similarly to London, and I believe that in the last few years two or three schemes have been brought forward for the extension of the railway round the city of Sydney, either one of which if carried out, would relieve us of much of the heavy traffic in the streets, and would be of immense advantage to passengers who desire to be landed anywhere near their places of business in the city.
2820. *Mr. Clarke.*] You seem to be entirely against the proposed system of electric tramways along George-street? I am.
2821. Either a single or a double line? Yes.
2822. I think you have already stated that it would obstruct all kinds of vehicular traffic? I consider so.
2823. And also be dangerous to passengers? In a measure I think it would.
2824. You think that at the present time there is sufficient accommodation for passengers without having this proposed tramway? Yes; providing you remove from George-street, Pitt-street, and York-street the heavy traffic of drays and trollies and other vehicles conveying merchandise and produce through those streets which might go through other streets than the three principal streets of the city.
2825. Unfortunately the Transit Commission have control only over licensed vehicles, and that being so I think you have already stated that the vehicular traffic ought to be under the control of the City Council? I regard as one of the means of benefiting the city of Sydney the transfer from the Transit Commission to the City Council of the whole and sole command of the streets as regards traffic of every kind. I do not believe that any other body could possibly look after it so well as the Municipal Council could.
2826. You have said that the traffic in London is quite different from that here, but you cannot say whether its control is in the hands of the London Municipal Council? I do not know—I have been too long away from London. I scarcely know the powers of the London County Council. At all events, London is the model city of the world, and nearly everyone who goes to it from this colony comes away with regret and, says, "There is something to learn in going to London; look at their cabs, vehicles, and other means of transit."
2827. It is many years since I was in London, but I saw then, and I believe it is still the case, that a policeman, by holding up his hand either one way or the other, could regulate the traffic at the junction of several streets, and there was not the slightest difficulty in his controlling the traffic; I noticed this particularly near the Royal Exchange? Yes; a policeman can stop any vehicle.
2828. I suppose you think that legislation would be necessary in order that a similar system might be carried out here? It is necessary to do something. We have been a suffering public for a long time, and I think that no time could possibly be more opportune than the present for altering the existing state of things, and by the expenditure of a reasonable amount of money adding immensely to the comfort of the travelling public in the city of Sydney, removing many dangers by the introduction of other means of transit than now exist, and generally advancing our city and colony by showing that we wish to go to the front and get a railway round the city. I am an advocate of that beyond anything else.

J. Pope, Esq. 23 April, 1896.

2829. Assuming that we had a railway from the Redfern Railway Station direct to the Circular Quay, or a circular railway, would that interfere with the earnings of an electric tram, should such be built in George-street;—would not the two lines compete? They might; but I think that all sensible people would use the railway if it took them anywhere near the places to which they desired to go.
2830. If this tramway is constructed in George-street, I believe the Commissioners intend that it shall run as a two-minutes service; if that were so, do you think that it would not obstruct the traffic by vehicles of all other kinds, and even pedestrians, inasmuch as it would be difficult to cross from one side of the street to the other in many cases without accident? Well, to me it seems almost an impossibility to entertain the idea of running tram-cars at intervals of two minutes along George-street, up and down.
2831. But I think that the Commissioners intend ultimately to have a one-minute, or perhaps a thirty-seconds service? Well, they might as well run the trams continuously, and keep on running round and round without any break.
2832. Would that be inconvenient to those who have no means of access to their back premises, or places where they can go down to load or unload goods? It would be very inconvenient to those of us who have to bring our heavy goods up George-street in order to get them into our warehouses.
2833. Of course those who have premises the same as you have would not be much inconvenienced—you having a frontage to three streets? Well, probably we should have about six drays at a time standing on our side of the street, and when the tram-cars were going up and down nothing else could pass them. In the case of Wright, Heaton, & Co., in Market-street, sometimes owing to the immense amount of merchandise that passed through their hands, I have known as many as six of their double-horse trollies standing loading up in Market-street, and if there had been a tram in Market-street it would have been impossible for anything but the tram to have gone to and fro.
2834. You are, no doubt, aware, as we are, that the telephone system is very convenient for merchants and others throughout the city? Yes.
2835. We have it in evidence that if this electric tramway were constructed along George-street it would interfere with the whole of the telephones not only in the city but also in the suburbs, and that to obviate that it would cost a considerable sum of money to lay down what is called a metallic circuit, and that it would take several years to complete that metallic circuit;—would that cause any inconvenience to the public? I do not feel competent to express an opinion upon that.
2836. Well, supposing it were necessary to have a metallic circuit laid down, and that the carrying out of that work would virtually be the means of stopping the use of the telephones altogether for some years, you would not believe in such a thing as that being done, would you? No, I should not. I know that with the present noises you may very frequently ring your telephone two, three, or four times without getting any response, and when you believe you are put on at the Telephone Exchange you cannot hear anything.
2837. And very often, I suppose, you can hear what other people are saying? Yes: I have heard other people's remarks frequently. I should be very sorry to reflect on our telephone service, though, because, especially in my own private house, I have experienced very great attention and have found the telephone service a very great convenience; and when you are speaking to someone not in the city of Sydney it is all right.
2838. Are you of opinion that it is not desirable to have an electric tramway in George-street at the present time? I am of opinion it should not be placed there.
2839. *Mr. Lee.*] You are simply against any system of tramways in the main streets of Sydney? I am.
2840. No matter what traction might be used? I know nothing about the Harris-street tramline.
2841. But I am speaking of the main streets? I am averse to the introduction of any more trams in them.
2842. And your reason is that you believe in a circular city railway and nothing else? I believe in that for the convenience of the general traffic of the city, and I also think it will be found a necessity, as I have said, to arrange better for the heavy merchandise and produce traffic of the city.
2843. Supposing that a circular city railway were constructed, and it were then found that the traffic was so congested in the city that it was necessary to have some means of traction by which it could be moved in a quicker and cheaper manner, would you still be opposed to the tramway system then? Yes; I think so; besides, I think that the circular railway would be sufficient for this comparatively small city.
2844. But supposing that in the course of years the city railway did not meet the requirements of the city, would you, under those conditions, be opposed to the tramway? Yes, I would, if it were proposed to lay down a double line of rails in George-street.
2845. Do you seriously entertain the opinion that the construction of the city railway would lessen the vehicular traffic in the streets to any large extent? I am perfectly sure it would.
2846. Is it not a fact that in the city of London the vehicular traffic in the streets has increased since the construction of the underground railway? Yes; because the population has increased from 2,500,000 to 5,000,000.
2847. And will not the population increase here also? If we have good luck it will.
2848. In London you have a case in point where the construction of underground railways has not relieved the streets of vehicular traffic? Well, if we provide for present necessities and for those of fifty years to come, we shall have done our duty, and I do not think that we should do that by putting tramways in our streets.
2849. *Mr. Hassall.*] I gather from your remarks that you are of opinion that a city railway and also a tramway along George-street would not be necessary for the requirements of the people? I think that the railway alone will do it, without the tram.
2850. And you are strongly of opinion that the railway should be constructed to provide any further means of communication between the outlying portions of the city and suburbs and the centre of it? I am.
2851. Do you unload any goods in George-street? Yes.
2852. What opinion have you formed in the event of a double line of tramway being constructed along George-street as to what inconvenience you would suffer even in the matter of loading or unloading? Unloading more particularly.
2853. What vehicles do you have your goods conveyed by? The merchandise from the ships is conveyed by Shortland and Sons' drays, whilst my own drays convey goods from my warehouses to the different wharfs.

J. Pope, Esq.
23 April, 1896.

2854. What is the average width of those drays? I suppose 6 feet 6 inches or 6 feet 8 inches.
2855. Are those drays loaded or unloaded standing sideways to the kerb or backed in? Backed in in many cases.
2856. With the horses' heads standing out in the street? Yes.
2857. Then, with a clear way of about 9 feet between the cars and the footpath, do you think any inconvenience would be caused? Yes. Sometimes we have, say, two or three tons of merchandise on a trolly, and if the lifts are not ready to receive the goods, we may keep a dray like that standing for an hour.
2858. And that must of necessity interfere materially with the traffic of the street? No one else could go along that side of the street if the tram was going along, unless immediately before or after the tram.
2859. And if the tram service were a continuous one, as it practically would be, that would be very inconvenient? I think so. I apprehend that difficulty would occur almost everywhere. Supposing, for instance, a landau with a pair of horses drew up outside Jones', the jeweller's, and that the people in the landau alighted from it to go into that shop, where would the landau be able to go? If it stood there, there would be no possibility of getting between it and the tram.
2860. Do you think that the traffic of the city is fairly well served by the Elizabeth-street tramway? Remarkably well served, so far as that tramway can do it.
2861. But the main traffic of the city running north and south, and that line of tramway running north and south, you do not have to go any great distance in traversing the cross streets in order to reach the tramway to go to any portion of the city or suburbs you desire to go to? Not for a great many; but I do not think that that tramway serves the western part of the city well—that is, George-street and beyond.
2862. You mean York and Clarence Streets? Sussex, Clarence, Kent, and York Streets, and up to George-street.
2863. Do you think that a city railway embracing that portion of the city, which a western scheme would naturally do, would answer all requirements? I do.
2864. And it would be a suicidal policy to construct both the railway and the tramway? I think so. I think that the railway would do all that Sydney would require of it for the next half century, and it would also force a great deal of the trade of the city of Sydney into the outskirts of Sydney. All the trade of London is not now done in Cheapside and St. Paul's Churchyard, as it used to be when I was a boy, or nearly all of it. Some of it has gone to the west end of London. The underground railway has taken it there. You can get your merchandise by rail to the west end of London almost as quickly as you can get it to St. Paul's Churchyard. Why should not Newtown, Petersham, and Balmain each become an immense place; indeed they must be in the future, and if you give them railway communication with all parts of Sydney the goods could be carried to them by rail.
2865. It has been pointed out that in the course of time the population of Sydney must naturally increase? I think so.
2866. And, consequently, you think a railway system would better suit the requirements of the people, increasing as they must in number, than this electric tramway down the main artery of the city? That is my opinion.
2867. We have had a good deal of evidence with reference to the interference with the telephone system that might occur, and it has been pointed out that the current being so much more powerful on the electric tramway it would materially interfere with the operations of the telephone;—as a business man, do you look upon the telephone as a necessity now? I look upon it as a necessity, but if its benefits are any more impaired than they are, by extra traffic in the streets of Sydney, the telephone will become almost useless for telephonic communication in the city.
2868. And I suppose you would rather be without the electric tram than without the telephone? Certainly.
2869. As a business man, you find the telephone is absolutely necessary to enable you to carry on your business? Absolutely necessary—so necessary that I am obliged to keep three telephones going.
2870. *Mr. Fegan.*] I believe that, in answer to Mr. Black, you said that you were one of a number of gentlemen who, by their strong arguments, were instrumental in getting the tram-line in Pitt-street pulled up? I said that I was one of those who advocated the removal of the tramway from Pitt-street.
2871. Can you give the Committee a description of that tram-line—how it was constructed, and what was the motive power? The rails were certainly not laid exactly level with the surface of the road as they are on the present tramways—they projected a little. That was no doubt a great mistake. I know of two very serious accidents that occurred in Pitt-street, not far from my business premises. In one instance, two ladies riding along in their carriage got on to the rail and one of the hind wheels of the carriage came off, the horses bolted, and the two ladies turned a somersault into the street very soon afterwards, because one of the wheels of the carriage came into contact with the raised tram-rails; but, apart from that, I really do think that the passengers who travelled by the tramway at that time were not more numerous than those who went by vehicles along George-street.
2872. But what was the traction? It was a horse tram.
2873. The horses used there were no better than any other horses? I do not think they were.
2874. Therefore those trams gave no greater facilities to passengers than any other kind of vehicle? I do not think they did.
2875. Do you not think that the day has gone by when a city like Sydney should be served by horse trams? A horse tram is perfectly out of the question.
2876. Do you know the estimated profit that would accrue to the Government from the construction of this tram-line? I have not the slightest idea.
2877. Do you think it would be a good speculation at the present time to return 10 per cent.? I could not say; I have never estimated what the returns might probably be.
2878. You would not be afraid of going into a business speculation if you were assured on the best authority that that business would return you 10 per cent. net profit? No; I should like a thing of that sort.
2879. And do you think that the Government ought not to go into a speculation of that description? Not if it is to be by putting down a tramway in George-street to the inconvenience and detriment of all persons connected with business in that street, as well as property-holders. I do not think the Government has any right whatever to interfere with our incomes in that way.
2880. Do you not think that the tramway will be better for business people? I feel certain that it will will not. It will ruin George-street.

J. Pope, Esq. 23 April, 1896.

2881. Has not Mark Foy's business considerably increased since the tramway was laid in Oxford-street? I belong to Farmer & Co., and I do not know anything about his business, any more than that it is popular.
2882. Has not the traffic in Oxford-street increased considerably since the tramway was laid there? Yes; I daresay traffic has increased there, but many good tradesmen have been ruined in Oxford-street.
2883. How were they ruined? I think because people were afraid of driving along Oxford-street. People who drove there and stopped for business found they could not do so with safety when the tram was there.
2884. Have you any evidence to show that? I have only statements; I know that Riley Bros.' business was comparatively ruined there.
2885. Riley Bros. were also at the corner of Bathurst and George Streets? They are there now, but they were not then.
2886. Are you sure they were ruined by the tram? I am not sure they were ruined, but Mr. Riley has told me over and over again, "Our Oxford-street business is of no use since they put the tram there."
2887. Have not men in George-street been ruined without the tram? Many of them, I think.
2888. You have seen men go up and men go down? I have.
2889. Some went into business with large capital and were beggars before many years had passed? I do not know that I can go very much into that. I could not call many to mind.
2890. But there have been such cases? There is no doubt of it.
2891. Therefore, you could not say that it was tram traction that ruined them? Not in George-street.
2892. Do you not think that it may be a misstatement to say that tram traction has ruined people in Oxford-street? Not as regards the few who have spoken to me about it.
2893. Have you stood in Oxford-street any length of time and watched the tram traffic? I have never had time to do so.
2894. But before a gentleman makes such a statement he should be sure that people are afraid of travelling in the trams? I do not know that they are afraid of travelling in the trams, but they fear that if they were to drive their vehicles in Oxford-street, and were to stop outside any establishment, their horses might take fright, and back into the tram as it was passing. I think that the trams interfere with the private traffic in the streets.
2895. If there were a convenient tram service passing your door every two minutes, do you think you would take a cab? Every day I should do so in order to go to the Redfern Railway Station. I do it now. I seldom go up in the tram.
2896. But you have not got that convenient tram now? No.
2897. But if as soon as you got out of your premises there was a tram going to the Redfern Railway Station, which would convey you at the utmost speed, even faster than a cab, would you prefer a cab to the tram? I always take a tram down from the station, because there is a certainty as to the time at which the trams run, but I always take a cab to the station, because there is uncertainty as to what time a tram will reach the station.
2898. If there were an accelerated tram service, and it were more comfortable, do you think it would supersede the old steam tram service by holding out greater inducements to passengers to travel by it? I hold that a cable tram would far exceed the old steam tram.
2899. That being so, do you not think that the greater portion of the people who now do their business in Castlereagh-street would make their purchases at Farmer's or Lassetter's, if there were trams passing those large establishments, instead of making their purchases in Castlereagh-street? Any persons of common sense would go to a house like Lassetter's, I think, to do their business, rather than do it in Castlereagh-street. I know of no concern in Castlereagh-street where they could buy with equal advantage. Perhaps it may be thought too much for me to say the same of my own concern, but I do not think that any one would buy in any other street than Pitt-street if they could get what they wanted at Farmer's; but I am not going for the advantages to my own business or to myself.
2900. Take the case of a woman hampered with three or four children, as some poor people unfortunately are, if they could get a tram which would take them to your door, do you not think they would purchase in the cheapest market? If they came to my door they would, and no mistake.
2901. If the tram went to your door, which it does not do at present, do you not think that would give greater facilities to people to purchase? I do. Any means of transit that would lead to any particular place of business must be of advantage to it.
2902. I heard you say in answer to Mr. Black that the laying of a cable tram in King-street has hurt business there? I think it has interfered with the comfort of the travelling public in King-street, other than those who go by the tram. I do not know that it has injured business there. King-street is one of those particularly happy streets in Sydney—No. 1 in my opinion—the business of which cannot be interfered with. The traffic is there, and the business is there.
2903. You have the same in George-street—the traffic is there and the business is there? Other kinds of business are done in George-street altogether. There is no heavy traffic in King-street.
2904. Do you not know that, prior to the laying of the cable tramway in King-street, there was a number of business premises closed in King-street? Yes; I remember empty shops there.
2905. Do you see any there now? I do not know that there are.
2906. Therefore that disposes of the argument that the tram has ruined business? I do not say it has ruined business in King-street. King-street is a business street only in a very small portion of it; most of the places there are offices.
2907. Another reason why you are against a tramway in George-street is because of the narrowness of that street? Yes.
2908. In your opinion, which is the narrowest portion of George-street? Well, I take that portion from Market-street to the Circular Quay as being too narrow for tramway purposes. The only portion which, in my opinion, is fit for a tramway, is from the Haymarket up to the Town Hall.
2909. I suppose there are other busy cities in the world as well as Sydney, whose municipal authorities have just as much consideration for the people as we have—for instance, in Havre, with a road width of 33 feet and 25 feet, there are two tramways which carry a considerable number of passengers, and if they can do it there cannot it be done here? But Havre is a small place.
2910. Well, Birmingham is not a small place? No.
2911. Larger than Sydney? It has a little larger population, I think. I came from Birmingham.
2912. Do you know the width of the streets where the tram-lines are laid in Birmingham;—did you see the tramways there? Yes; I have been on them.

J. Pope, Esq. 23 April, 1896.

2913. And do you think the streets are wider there where the trams run? Yes; excepting in one or two places. But the principal streets of Birmingham, such as New-street, have no trams in them. There are no trams in streets like Pitt-street or George-street.
2914. Have you been in New York? Yes.
2915. And have seen the tram traction there? Yes.
2916. Is New York a larger place than Sydney? Slightly.
2917. Larger than London, is it not? No. The trams in New York are overhead trams running level with the second storeys of many of the houses.
2918. How long is it since you were there? About eight years.
2919. The trams are run in the streets now;—in all those places the streets are not much wider, and in many cases not so wide as George-street? I think that is very likely, but where we have one street like George-street they have about six. If they block a street like George-street they have five others as good.
2920. What have we as good as George-street? Pitt-street is not so wide as George-street.
2921. It is better as a business centre? Yes; it is now.
2922. And you think a tramway will not improve George-street? I feel certain it will not.
2923. I suppose you know the proposed system? I have not studied it, because I am not at all in favour of it.
2924. Do you not think that the construction of this tram-line will dispense with a great deal of heavy traffic—that people will not use the cabs or other kinds of vehicles so frequently? I do not suppose they will.
2925. And do you not think that that will facilitate matters? No; not from a commercial point of view. It would suit a great many people. It would be very advantageous for people who wished to travel to the Circular Quay wharfs to go to Manly or Watson's Bay, or other places down the harbour; but if we had a railway, look how well the traffic could be served by it.
2926. What about the pick-up traffic—I mean those people going along George-street from one street to another;—do you not think that the tramway would be a great convenience to them? No; in my opinion it is not necessary for them.
2927. In answer to Mr. Hassall, you said that sometimes the drays have to stand outside your establishment for an hour? Yes.
2928. Do you think that if the City Council had charge of the traffic they would allow your vehicles to stand there an hour? No.
2929. Have you not Market-street in which to unload goods if you wish? That is the place I am speaking of.
2930. Therefore, they do not stand either in Pitt-street or George-street? Yes; the drays stand right outside in the street there. We back in to unload in Market-street.
2931. You have three entrances then—in George, Pitt, and Market Streets? In George-street we go in the entrance across the footpath, and take the horses right down into the basement by a sloping road. I have accommodation for ten two-horse trolleys in the basement.
2932. So that the tramway would not materially interfere with you? No; but as the men can unload only one trolley at a time, we have sometimes four or five trolleys out in the street.
2933. Do you think your drays would be allowed to stand there if the Council had charge of the traffic? I do not know; but there could be no other traffic than the tramway if the drays were all there at the same time.
2934. But I understand that you would prefer to place the whole of the traffic in the hands of the City Council? I say that I think that would be a better course than the one at present adopted of having it under the control of the Transit Commission, which has not power over the streets, but only over the traffic.
2935. You think that would be better for the purpose of facilitating traffic? I think so.
2936. And conducting it through the various streets, according to whether the streets were busy or not with pedestrians? Yes.
2937. I understood you to say that if this tram-line were constructed it would interfere with the speedy construction of the city railway? I am of opinion that it would.
2938. Have you gone into a calculation as to what would be the return to the Railway Commissioners from a city railway? No.
2939. Do you not think that it is highly necessary, before we advocate the construction of a line, that we should know whether it would pay those who constructed it? I think you must make the line first, and trust to its paying.
2940. Do you not think that that policy has been carried out too long in this country? No. It would not be with our present Commissioners and the circumstances we are now placed in. There is no doubt that they would make the fares adequate to the amount of interest on the amount outlayed, and it would be a very safe investment for the Government to extend the railway round the city of Sydney.
2941. Have you proved it would be a safe investment for the Government? I have proved it to my own mind, and I think that any man who has any idea of the value of money, and the common interest on money, and the use of it, must look upon the city railway as an enterprise that he would not hesitate to go into. If such a thing as city of Sydney railway debentures were put on the market they would be taken up sixfold.
2942. But before you would go into a speculation you would count the cost? A little more than I used to do.
2943. That is more than I dare say, but if you were to advocate something in your own business you would count the cost before hand? In some measure, although it is imperative for you to have a good deal of speculation and enterprise now before you can get on.
2944. And caution as well? Yes, and caution. The tramway might pay, but I say that no similar mileage of line would pay so well as the city railway extension.
2945. But if a speculation were shown to you from which 10 per cent. interest could be obtained it would be worth going in for? Not to the detriment of anything that would pay 20 per cent.
2946. But is not this electric tramway part of a system to join ultimately the railway system? I cannot bring myself to think that the tramway is a necessity so great that the interests of the city, and especially on a street like George-street should be imperilled by putting a tramway down in it. I think we have no street in the city of Sydney adequate for a tramway and to be always reasonably comfortable for its inhabitants, to say nothing of their safety; and this tramway would be to the convenience of a few and to the great detriment of the many, I think.
2947. So whether it is steam, electrical, or cable, you are against the construction of a tramway in George-street or Pitt-street? I am.

J. Pope, Esq. 23 April, 1896.

2948. *Mr. Roberts.*] You spoke about the congested traffic of George-street, more particularly what is known as the heavy traffic, and you suggested that it should be under the control of the City Council;—would you mind, as a man of long residence in the city, and of great business knowledge, telling the Committee what you think ought to be done with a view of relieving this traffic—what regulations you would suggest should be carried out? Any heavy traffic might be conveyed up and down Pitt-street up to 8 o'clock in the morning or after 10 o'clock at night, if necessary. The heavy traffic now allowed to go through the streets—more particularly George-street and Pitt-street—from Circular Quay or any of the wharfs to the Railway Station at any time between 8 o'clock in the morning and 10 o'clock at night ought not to be permitted, and I think that the Transit Commission, although the members of it may be well-intentioned, as doubtless they are, towards the general interests of the city and its residents, has never had any gentleman upon it who understood the inconvenience which the commercial community of the city experience in getting about the city to do their business when their vehicles are continually met by heavy drays and other similar vehicles. If these were all compelled to use the side streets between 8 o'clock in the morning and 10 o'clock at night, we should have much greater freedom. It wants a power to do this; I do not know what power could.

2949. What you mean is that, in going from Circular Quay to the Railway Station, a certain route should be laid down? I do; and that that route should not be along the two principal thoroughfares.

2950. Could you tell us what that route should be? I should take Sussex, Kent, and Clarence Streets, on that side. But the best means of transit would be a city railway.

2951. You will admit that it would be rather a difficult matter to lay down a hard and fast rule as to where drays and other vehicles should go? It would be.

2952. As a matter of fact, it would interfere with freedom in carrying on business? It would.

Philip Billingsley Walker, Esq., M.I.C.E., M.I.E.E., Secretary to the Electric Telegraph Department, sworn, and further examined:—

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 23 April, 1896.

2953. *Chairman.*] You have had an opportunity of seeing the evidence that has been given in regard to your statement previously made? I have.

2954. Have you seen the evidence as far as we have gone? I have not got Mr. Raw's evidence, nor Mr. Webb's; I have Mr. Callender's evidence, and I should like to have a copy of the other gentlemen's evidence.

2955. You have seen Mr. Callender's evidence? Yes, I have; and I do not attach any importance to Mr. Callender's evidence, because he has had no practical experience in the construction of telephone works. He is merely an electric lighting engineer.

2956. Would you attach any importance to what Mr. Webb might say? No; he has had no practical experience in the construction of telephone works.

2957. Would you attach any importance to Mr. Raw's evidence? I do not know what experience he has had in connection with either telegraph or telephone lines; I have not heard of him in connection with their construction.

2958. Do you absolutely maintain your own figures? I maintain my own figures, and I can prove that Mr. Callender's evidence is erroneous.

2959. Do you desire to make any reference now to Mr. Callender's evidence? Yes. I desire to direct your attention to Question 2176, in which Mr. Callender says that No. 12 copper-wire would be 104 lb. to the mile, whereas it is really almost twice as much, it being 200 lb. to the mile, which, on his own estimate, would make a considerable difference. With regard to Question 2296, the tender price there quoted in "tenders accepted" is correct; that is to say, as regards galvanised-iron wire, insulators, and tins. The item of 3,150 miles of No. 12 wire, I desire to say is only the bare cost of the wire in the store in Sydney, and no carriage is allowed for it.

2960. Are the insulators, fifty per mile, sufficient? That is entirely wrong. Each pole in the city has 132 insulators on it, which would make 660 insulators to the mile, there being thirty poles to the mile, but that of course would not be the average.

2961. How many poles have you with 130 insulators on them? The number that I stated in my last estimate referred to the whole system.

2962. How many was that? Well, we have a very large number of them; I cannot tell you exactly at this moment, but his average is entirely wrong; it would give 1,960 to the mile in place of fifty.

2963. What is the largest number of insulators on any pole? One hundred and thirty-two.

2964. Can you tell us how many poles have the maximum number? I could not tell you exactly.

2965. What is the smallest number of insulators on any poles? Well, I suppose there would be one insulator on one pole in some cases, but that would be in the suburbs.

2966. What is a fair average of insulators? I should say 100 to 110.

2967. How many insulators have you in the whole of the telephone service? I could not tell you, but I can calculate it.

2968. Mr. Callender has got down 157,500 as being required;—is that number correct? I think it would take more than double that number.

2969. In addition to what you have already? In addition to what we have already; at all events, half as many again as he has calculated for.

2970. Can you tell us definitely how many insulators you propose to put up? I could give details of this. Mr. Callender simply calculates the insulators at 7d. each, and that is the cost in store in Sydney, without allowing anything for carriage.

2971. What about cross-arms 80,000?—Taking these at his own estimate, which I do not admit is correct, he has left out altogether the nuts and bolts.

2972. Will you tell us how many cross-arms there ought to be? There are twenty-two cross-arms on each pole, but I could not give you the number without counting the poles.

2973. Will you take his price for the cross-arms? Certainly not. The price that we are paying for cross-arms is 9d. for short ones and 2s. for long ones, averaging 1s. 6d. each; so in that instance there is a great discrepancy.

2974. The price of the bare cross-arms is 9d. and 2s.? Yes; and they all have to be bored with six holes

holes prior to being put on the post, and then painted. Taking his own figures for the cross-arms, he has left out the cost of 80,000 bolts and nuts. P. B. Walker, Esq., M.I.C.E., M.I.E.E. 23 April, 1896.

2975. What do you say they will cost? £1 per cwt., and it takes ½ cwt. per mile.

2976. Is it a fact that when the telephone wires are put in a subway it becomes essential to use a metallic circuit? Certainly not.

2977. In support of that attitude, what information can you furnish to the Committee? If a cable is put in a subway it will work just as well as it will if hung overhead in the streets. In the streets it is exposed to every kind of weather; if put in a subway it is protected. We have at present seven or eight circuits working across to North Shore, under the harbour, on a single wire, for telephone purposes, and if the cable works under the harbour where it has the pressure of the water on it, it will certainly work in a subway where it has no pressure whatever on it. In addition to that, I have proved that Mr. Callender's statement is simply imagination. We have worked a system of telephones in connection with the forts for a considerable time, underground, and we worked them very well. Of course the system had to be altered recently, in consequence of the effect of the cannon on the working of the telephones at the Heads, but that is the only reason why the metallic circuit had to be introduced.

2978. Do you know any places where the telephone wires are placed in a subway and there is no metallic circuit? I could not say. I know that in America there are some places where cables are worked underground.

2979. You emphatically deny that a metallic circuit is necessary? I emphatically deny it.

2980. The construction of the subway does not in any way bind your telephone service to a metallic circuit? No; it does not. I may say that the idea that the subway was started for the purpose of putting metallic circuits in is quite a mistake, for the subway system was started in 1885 by the late Mr. Cracknell, long before metallic returns were ever thought of. The first subway was constructed up Moore-street, and the system is being perpetuated now only for the purpose of getting rid of the overhead wire difficulty, because we find that we cannot possibly put any more wires on those poles with safety.

2981. Is a metallic return valuable in a telephone service? Of course it is valuable.

2982. Does it make it a more effective service? Certainly.

2983. Is your Sydney service complete or satisfactory at present? It is quite as complete as any other system of its kind.

2984. Would it be a better system if you had a metallic return? It would be a better system, but a more expensive one.

2985. Do you believe that eventually Sydney will require to have a metallic return? I do not believe that it will be required for the next twenty years. I said the next ten years, but on looking over the matter since, I do not believe that it will be required here for the next twenty years. Since the Committee brought this matter up I have been looking into the systems worked in other countries. I find that Berlin, in 1893, was working a very large system entirely on the earth circuit, the subscribers numbering 17,000; and it has not been altered since.

2986. Do you believe that in the future a metallic circuit will be adopted in Sydney? I do not believe that it would be put in for the next twenty years; it would not be necessary.

2987. What percentage is your telephone system paying now? Fifteen per cent. The cost was between £90,000 and £100,000; but, as I have said, it is rather difficult to get at the exact cost, and that is merely the approximate cost. It may have cost £40,000 or £50,000 more, because it was all mixed up with the telegraph business in the early days, and has only recently been separated.

2988. The telephones are paying 15 per cent.? Yes.

2989. Is that gross return or net return? That is net return, after allowing for everything.

2990. Do you think that you are giving your telephone subscribers a fair service? I think so. I think that the telephone system in Sydney will compare favourably with any telephone system in the world. I have had numerous proofs of this from gentlemen who have travelled all round the world.

2991. It would be a better telephone system if you had a metallic return? It would be a much better service as regards induction.

2992. Have you any knowledge of electric trams running in any city without interfering with the telephones? No; I have not.

2993. Do you believe that would be possible? I do not believe it would be possible to have electric traction wires without interfering with the telephone.

2994. If you were informed that by abandoning the trolly-wheel and having a sliding contact almost the whole of the difficulty in regard to the telephone service had been obviated, would you believe it? That may be a matter of opinion.

2995. If you found there were cities in which it was so? Where is there a city in which it is so.

FRIDAY, 24 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

P. B. Elwell, Esq., Electrical Engineer, Department of Railways, sworn, and further examined:—

2996. *Chairman.*] Do you desire to make any comment, from a professional standpoint, with regard to any of the evidence that has been given by other witnesses? I have read the evidence of Mr. J. O. Callender, given on the 16th and 17th inst., and regret that he did not make himself acquainted with the electrical details of the proposed tramway before expressing so decided an opinion upon the effect it would P. B. Elwell, Esq. 24 April, 1896.

P. B. Elwell, Esq. 24 April, 1896.

would have upon the telpehone system. Mr. Callender has apparently taken it for granted that the proposed tramway would be no improvement (electrically speaking) upon the line constructed three years ago at Leeds upon which the English experts based the opinions quoted in Mr. Walker's evidence, and, as the statements made by such authorities as Lord Kelvin and Dr. Hopkinson are not to be doubted, Mr. Callender could not well differ from them. But the electrical details of the proposed tramway are no more to be compared with that line at Leeds than with the Military Road line, constructed about the same time; consequently Mr. Callender's opinion, being based upon mistaken suppositions, is not of the value it might have been. The Board of Trade regulations, issued a year ago, provide for such conditions being observed in the construction and working of electric tramways as to very materially reduce the disturbance of telephone systems with earth returns. These conditions have been observed without difficulty or undue expense since these regulations were put into force, and in no case have I heard of any complaint. But, in regard to the George-street scheme, we have gone far beyond the Board of Trade rules in perfecting the electrical details; in fact, I am not cognisant of any tramway in the world with which it would compare in this respect. Consequently I feel justified in saying that the telephone system will not be materially affected by it. As regards metallic circuits for telephones, it is universally agreed that it is the only perfect system, and they appear to have been introduced without any special regard to electric tramways. For instance, Paris, London, Glasgow, Edinburgh, Newcastle, and Hull have no electric traction wires, whilst all have adopted the metallic circuit for their telephones. Although there are electric tramways in New York, they were certainly not the cause of the metallic circuit being adopted in that city—the latter having been in existence much longer. The Railway Commissioners were the first to adopt metallic circuits for telephones in this country, they having now about 200 miles in use. The alteration was necessitated by the introduction of quadruplex telegraphy by the Postmaster-General. The currents used in this system possess characteristics most favourable for disturbance of telephones, being both alternating and intermittent, and it was found practically impossible to use telephone lines running parallel with the quadruplex telegraph wires. However, the Commissioners, recognising the public utility of the improved telegraph system, did not suggest that the Postmaster-General should pay for metallic circuits on the railway telephones, but carried out the necessary alteration at their own expense, the result being most successful. The Corporation of Birmingham has recently decided to allow the introduction of the overhead wire, carried on poles in the centre of the street, for traction purposes, and I have heard of no action on the part of the telephone company, although I believe they still have earth circuits in that city.

2997. Are you sure that in Birmingham they have an earth return? They had when I was there; I have not heard of their altering it.

2998. How long ago was that? Last July.

2999. Then it is highly probable that they still have an earth return? Yes.

3000. You have just said that you feel justified in stating that the proposed tramway "will not materially affect" the telephones? Yes; I did say so.

3001. Why do you use that qualifying term? Because it must be a comparative.

3002. Will the tramway affect the telephones at all? Yes, for induction in one wire must affect another wire, and it is a question of degree; but the effect would be so small that it would be unnoticeable compared with the existing disturbances.

3003. You do not dispute the fact that it will affect them somewhat? Theoretically, it must do so.

3004. Much depends on the excellence of your works, and the distance of the telephone wires from them? Exactly.

3005. Was it universally acknowledged, or was it the uniform opinion three years ago, that the trolley system of tramways must affect the telephones? Yes, it was.

3006. Is that the opinion to-day? No.

3007. How has that alteration of opinion originated? The principal reason why the disturbance on the telephone wires has been reduced is that the return circuit for the electric trams has been perfected. That is the most important reason.

3008. By what alteration has the electric return been perfected? Three years ago it was generally considered that a copper wire, about $\frac{1}{4}$ inch in diameter, connecting the ends of the rails together, would be sufficient for all purposes. Since then it has been found that it was far more economical for the tramway companies to use a very much larger copper bond; in fact, the most economical size is a bond that will be equal in conductivity to the rail itself—just the same as if the rail were one continuous steel bar, and, although it has never yet been done to that degree, we intend doing it so in George-street.

3009. Increasing the size of the bar, and making more perfect contact, has provided a complete metallic return? Yes.

3010. Is there any other improvement—I suppose that we should look for improvement in the car, the running road, the overhead wire, and the trolley? Yes. Taking the overhead wire, the ordinary condition of trolley working is somewhat imperfect, and that produces a slight break in the current frequently, as the car runs, and every break in the current causes an induction in surrounding wires. That we intended to overcome either by not using a trolley at all, or by using a trolley and a sliding contact behind it; so that if the trolley left the line by one-sixteenth of an inch at any moment the sliding contact behind would still keep the circuit. By that means you can practically prevent any making and breaking of contact with the trolley wire.

3011. Now with regard to the car? In the motors on the car the controller has a great deal to do with the variation in current. The first controllers that were made were very jerky in action—there were not sufficient points of variation in them, and not only did it produce an uncomfortable motion in the starting of the car, but also induction on the surrounding wires. During the last twelve months only they have improved these controllers to a very great extent, and now the motion is perfectly smooth, so that the variation of current instead of being sudden is carried out gradually. There is another point, and that is in the generator at the station. Working with a single generator, as we do on the Military Road line, the smallest variation in the continuity of the current, caused by a slight imperfection in the commutator of the machine where the current is collected, causes an induction in the wires, and it is quite easy for anyone listening on the telephones running along the Military Road to know whether the commutator of the generator is in good order or not; and if there are complaints of noise on the Military Road, you may be pretty sure that the commutator of the generator has something to do with it, and requires attention.

P. B. Elwell, Esq. 24 April, 1896.

attention. It is only a small machine comparatively. In George-street we should use at least two large machines running together in such a manner that any slight imperfection of current on one would be balanced by the other, and so produce a continuous current. In addition to that, there would be a battery of accumulators at Redfern which would also take up any slight inequality of the current, and that would really produce a more continuous current than has ever been used on a tramway yet. There is another small point which is of some importance, and that is why we intended working the George-street line on what is called the three-wire system—say, a section between the Railway Station and the Town Hall would be worked by a positive current, and the section between the Town Hall and the Circular Quay by a negative current. Any imperfection in one current would tend to be neutralised by an imperfection in the other current, because, instead of both tending together to cause induction, they would tend to neutralise the induction caused by each other. I think those are all the points.

3012. The absence of good bonding or the use of one of the old trolley wheels or inferior carriages would create a disturbance on some of the telephones? Yes.

3013. In your previous examination you emphasised the question of the bonding; you mentioned, I think, that the cars were all first-class;—how is it, in that the whole question was apparently dominated by this sliding contact, or bow or show—call it what you see fit—that you did not emphasise that previously? I believe I did refer to the sliding contact in my evidence.

3014. You see it is really the bonding that, apparently, dominates the whole case, because if we had an ordinary trolley wheel, as the public know the trolley, and as it is used in most other places, the whole thing would break down from that perhaps—is that so? Yes; owing to a very bad contact, it might break down.

3015. You say that the cars, being smooth-running cars, the road being made perfect, as previously explained—properly bonded—there being a sliding contact for the overhead wire, and direct currents from Redfern, controlled to some extent by proper generators, this would make the thing absolutely safe? Yes. There is one point I did not mention, and that is the contact between the wheels and the rails, which is just as important as the contact between the collector and the overhead wire. In George-street, in fact in any streets in the city where there was continuous traffic, I do not anticipate any difficulty under that head, because the rails will be kept fairly clean by the passing of the cars. On the Military Road a car runs only every three-quarters of an hour or half-hour, and the sand and dust are blown upon the rails, and a bad contact is thus made.

3016. Has the *Electrician* of the 10th January, 1896, been brought under your notice? Yes.

3017. Have you seen an article on "Electric tramways and telephone disturbances," by Mr. Du Riche Preller? Yes.

3018. Do you agree with that, on general principles? Yes; he is quite correct in what he says, so far as good contact is concerned.

3019. Is he regarded as an authority in the electrical world? He writes a great deal; and he must have examined into nearly every system in Europe very carefully, I should say, judging from the way he describes them.

3020. Does the electrical world regard him as a pretty competent man, as a rule? Fairly competent.

3021. His opinion should carry some weight? Yes.

3022. Is it a fact that the perfecting of this sliding contact within the last year or two has minimised the difficulty with regard to telephones? There is no doubt that is so.

3023. If a telephone service cost £100,000 in the first instance, would it cost £200,000 to put in a metallic return for it? No; it would not.

3024. Supposing the service in the first instance cost £100,000, would it cost anything like £100,000 to put in a metallic return to it? I do not think it would.

3025. Supposing telephone wires are placed in a subway, does it then become essential, for efficient working, to put in a metallic return? Yes; it does.

3026. Why does it? Because the wires run in the cable so close together that the induction between them would be much worse in the subway than it is on the overhead lines. It might be overcome to a certain extent by modifying the cables—using only half the wires in the cables, and connecting the others together so as to neutralise the induction; but I would not like to say definitely how it could be done. Perfect insulation can be secured, but the very fact of the wires going so close together produces a magnetic effect on each other, and the only way to neutralise that, perhaps, is to have a double circuit.

3027. Do you believe that it will be essential, eventually, to use a metallic circuit for Sydney, whether you have electric traction or not? Certainly I do.

3028. Can you give us any information with regard to the telephones in subways in any part of the world? No. I did not go into the question of subways.

3029. Can you say whether they have metallic returns or not? I believe that, invariably, they have. I should be very surprised if there is any instance of telephone wires in subways without metallic returns.

3030. There is no doubt in your mind that all electricians would agree that, having placed the telephone wires in a subway, there should be a metallic return? Yes, I believe they would.

3031. Therefore, you infer from that, in that the Department in charge of telephones is making subways, it contemplated having a metallic return? Yes, I do.

3032. Will you briefly state your objection to the conduit system? First, on account of the great cost; secondly, the difficulty of drainage in a city with such gradients as Sydney; thirdly, on account of the break in the system, it being economically impossible to continue the conduit system into the suburbs.

3033. *Mr. Trickett.*] To-day we have received from Mr. Deane a document dated 22nd April, and written after conference with you—I suppose you are acquainted with the nature of that document? Yes.

3034. Would you mind giving us some explanation of this. When you were asked Question 1345—"Do you consider that [meaning the North Shore tramway] a satisfactory electric tramway now"? You said "Yes; it has been working very well for the last eighteen months," and at Question 1330 you say, "I have not heard recently of any complaints about the telephone wires being interfered with." In this document, for which you are responsible, you devote three pages to defects of and remedies for the electric tramway at North Shore;—would you explain how it is that the other day you spoke of the North Shore tramway as being a satisfactory electric tramway, and said that you had not heard of any complaints, and now you come in with a long document containing three pages of complaints and remedies? It is only a question of degree. All these causes of disturbance on the Military Road line do not prevent speaking along the line, but they certainly contribute to the difficulties of speaking.

3035. But do you not think that it would have been fairer to the Committee for you to have told us all these

P. B. Elwell, Esq. 24 April, 1896.

these three pages of objections the other day instead of now, we apparently having wasted days in taking evidence on a matter which is cleared up by your statement to-day? It was so difficult for me to select the details; but I made it clear, I thought, that any make or break in the current at any time, no matter whether in connection with the trolley-wire, the rails, or anything else, caused induction, and the point was to reduce it as much as possible.

3036. But I understood you to say then that you had completed the bonding of the rails? No; we had only done what we could with economy—that was, to connect the rails with the water-pipes. They have never been bonded. I am sorry I did not go into more detail, but I did not know it would be expected.

3037. At Question 1330 you say, "On the Manly road I originally arranged for the tram-wire to be carried on the same poles as the telegraph wires, thinking that it would look far better. This plan has been tried in the other cities since then, though it had not been carried out then, and it has been shown that there is no objection to it"—whereas we have it as a matter of fact on record that at the Telegraph Conference in Melbourne, held not long ago, the Superintendent of Telegraphs in Tasmania stated that the tram-wires there had been placed on the same poles as the telegraph and telephone wires, and they had to be removed because they interfered with the telegraph wires;—do not those two statements seem to conflict? Yes; but I do not think that that was the reason for their removal. I might mention that in Vancouver—where they have a very fair telegraph and telephone system on the earth circuit principle, they told me that they found no difficulty at all from having the telegraph wires on the same poles as the electric tramway wires, and that it seemed a sensible system to follow out.

3038. As regards one of the remedies to prevent the disturbance of telephones, Mr. Deane in this document says "the return conductor will be of a most perfect character known, the joints of the rails presenting no higher resistance to the passage of the current than the body of the rail. This has only as yet been achieved on a very few systems";—will you kindly tell us where are the systems where this jointing has been tried and found to be a success? In Cleveland, Buffalo, and Chicago.

3039. Those are the three places you refer to? Where I have seen the best bonding—the nearest approach to perfection.

3040. So we come back to the old thing—"the nearest approach";—you will admit that it is not perfect as a corrective? I think we can improve a little on it in George-street.

3041. Since you gave evidence before, Mr. Walker has produced letters stating that there were very many complaints with regard to the working of the telephone system to Manly Beach;—have you heard anything of complaints in that direction? I have not heard of any complaints since we connected the rails with the water-pipes and introduced the new generator at the cable-station, excepting that I have heard there are noises in the telephone when the commutator of the generator is in bad order. I have also heard from people who use the telephone that they do not consider the tramway causes any material inconvenience.

3042. If this Committee recommend, and if Parliament authorise, the construction of this proposed electric tramway, will you undertake to so perfectly construct the electrical portion of the tramay that you will neutralise any interference with the telephone wires? Yes, I will.

3043. You will undertake, as an electrical engineer, to neutralise in every way that effect, not by any dealing with the telephone wires, but by a perfect construction of the electrical portion of the tramway? Yes, I will, simply by a perfect construction of the electrical portion of the tramway.

3044. *Mr. Lee.*] Could the electric-traction wire be used for an electric-lighting wire? Yes,

3045. Could the electric-traction wire be utilised to light lamps on the top of the standard poles? Yes.

3046. Is not one of the conditions for electric-lighting a continuous and uninterrupted flow of electricity? No; it must be a constant potential—that is to say, a constant pressure of current.

3047. Well, inasmuch as with the trolley traction there would be makes and breaks—that is, having an intermittent power—would that not seriously interfere with the lighting? Not on the poles. It interferes slightly with the lighting in the cars, because they come under the influence of the make and break, but the lights on the poles would not come under that influence at all.

3048. Do you attach importance to that distinction? No; because by means of the good contact that we should obtain the lights in the cars would be just as good as if they were on the poles.

3049. You have no doubt that the light for the lamps could be obtained without any flickering? There is no doubt at all that perfect lighting might be obtained from the tramway current.

3050. There seems to be a difference of opinion on that point among other engineers? It all depends on the provision made for the constancy of potential—that is, the constancy of pressure on the mains.

3051. Under the system that you have proposed to the Committee, the lighting of the lamps on those standards will be easily possible? It should be perfectly steady—there should be no interruption.

3052. Will it require any increased power at the power-house? It depends on how much lighting is done, but in any case for lighting the line of route it would not be a material matter.

3053. It might be thought by the civic authorities that it would be desirable for you to light the streets of the city from the lamps on the top of those standards. If they arrived at that conclusion, would it be possible to do it with the system you are going to lay down? Yes, perfectly.

3054. Without any increased cost? It would mean only a few more pounds of coal burnt at the station.

3055. It would not mean any increased power at the power-house? Not materially. No extra plant would have to be put down.

3056. You say that the surplus power could be utilised for lighting purposes? Perfectly well.

3057. You are very clear on that point? Very clear.

3058. It is an important point with me, and I should like you to be very clear upon it;—have you thought it out? Yes; I have thought it out.

3059. And given it very fair consideration? Yes.

3060. And you unhesitatingly say that it could be done? Yes; it could be done.

3061. *Mr. Clarke.*] In answer to Mr. Trickett, you stated that you would undertake that no interference with the present telephones should arise from the construction of the proposed electric tramway? Yes.

3062. You are certain of that? Yes.

3063. And without metallic circuits? Yes, without metallic circuits.

3064. *Mr. Fegan.*] I think you gave us to understand, when you were here before, that we could never look for the North Sydney tram-line to be anything like perfect, seeing that it was not intended in the first place for electric traction? Yes; it would mean a heavy outlay—practically remaking the whole of the electrical work along the line.

3065.

3065. And that was a very cogent reason why it was not so successful as you would like it to be? Yes.
3066. But I suppose that if there were sufficient traffic to warrant the expenditure of a large sum of money you would be prepared to-morrow to make it as good as any tram-line running? Certainly I would. The question is purely one of expense.
3067. In reference to the poles which it is proposed to erect in George-street, is the drawing before the Committee a fair representation of one of them? Yes; it is a fair sample of the poles proposed to be used.
3068. Where do you propose to put those poles;—in the centre of the street? Yes.
3069. Do you not think that they would be dangerous to traffic? I have seen such poles in similar positions in different cities of the world, and they did not in any way appear to present difficulties to the traffic. On the contrary, they appeared to be conveniences.
3070. In what way? Mainly by dividing the traffic and forming refuge-places for people crossing the road.
3071. How many feet will a pole be from the car itself? The usual distance will be from 2 feet to 2 feet 6 inches. In Minneapolis the cars ran within about 6 inches of the poles, and in order to protect passengers in the cars from accident, through putting their heads out or doing anything of that sort, the windows would lower only about 6 inches on that side, and the passengers got out at the ends, whilst in open cars with cross-seats they had the wire lattice on that side of the car.
3072. So you prevent the people from getting out on the same side as the poles are? Yes; in any case.
3073. There is no fear of a person jumping out on the same side as the poles are? None at all.
3074. Do you know the Port Rush tramway in Ireland? Yes.
3075. Do you know that it is stopped at the present time? I believe it is stopped at the present time in order to undergo certain alterations required by the Board of Trade.
3076. It was constructed before the regulations of the Board of Trade were issued, was it not? Many years.
3077. The cars were open cars, and people could get out on whichever side they thought fit? Yes.
3078. Therefore, there were not sufficient precautions taken against accident or loss of life? No precautions were taken.
3079. People could jump out on the side where the poles were? There were no poles, but only an elevated rail, which they could trip over.
3080. But here you say you will have the side of the car enclosed so that passengers cannot get out on the side where the poles are, and that will prevent accidents? Yes; certainly.
3081. Why was it necessary to bring the Port Rush line into conformity with the regulations of the Board of Trade? It was altogether out of conformity with the regulations. The return rail was far below the requirements of the Board of Trade, and liable to electrolysis, corrosion of pipes, or anything of that sort.
3082. What brought the matter before the Board of Trade? I do not know.
3083. Is it not a fact that two men were killed there? There have been accidents from time to time. I remember the case of a horse drawing a cart and falling over the elevated rail. This occurred on a wet day. The man went to the horse to try to pull it from the rail by its hair; he got a shock, and the current knocked him nearly over. There have been several other similar accidents.
3084. And quite recently an English tourist was killed there owing to the unsafe condition of the tramway? I heard of a man falling against the rail and being stunned by the fall, and then, from lying on the rail, he was practically burnt. That, very likely, led to the Board of Trade stepping in.
3085. *Mr. Roberts.*] Do you regard it as a well-known fact that underground telephone wires cannot be so successful except in conjunction with metallic returns? Yes.
3085½. There is no metallic return in connection with the cable which is laid under the waters of the harbour from Sydney to North Sydney, and it is said that inasmuch as that cable works satisfactorily without a metallic return, therefore a metallic return for wires in a subway is not absolutely necessary;—is that a fair argument? The cases are not quite parallel.
3086. Would you be kind enough to explain in what way they differ? The cable across the harbour is comparatively short, and it has very few wires in it. The two things which cause induction are the distance the wires run close together, and the number of them in the cable—the more in the cable the greater the interference, and the greater the distance also the greater is the interference.
3087. *Mr. Wright.*] You stated, in reply to Mr. Trickett, I think, that whereas three years ago electric trams destroyed the utility of telephones unless they were provided with a metallic return, that is not now the fact, by reason of recent improvements in the construction of the tramways? Yes, that is so.
3088. Can you quote any authorities in support of that statement? In the evidence given before the Joint Committee of the House of Lords and the House of Commons they referred to the question of improvement in detail reducing the disturbance.
3089. But they distinctly say they do not think that anything short of a metallic circuit will be sufficient? It was so at that time. I think the best instances would be the cases of Bristol and Coventry. The systems there have been carried out under the Board of Trade Regulations, and it is reported that there is no disturbance of the telephones.
3090. Have the telephones there an earth return? Yes; an earth return in both cases, I believe.
3091. You know of no recognised authority in support of your statement? I cannot now quote one.
3092. *Mr. Lee.*] In the event of this electric tramway being constructed exactly on the lines of your proposal, and if after it is brought into operation it is found that it is contributing to the telephonic disturbance, would it then be possible to effect a remedy of the telephone service at a cost not exceeding the estimate that has been placed before us by Mr. Walker and other experts? Yes; if it were found that there was still a disturbance in the telephones, induction coils could be arranged on the tramway overhead wire, which, by acting against the induction of the wire, would neutralise the effect, and that would not entail any material expense.
3093. It would not be costly? No; it would not cost £200.
3094. But supposing that you had to go the whole length, and apply the metallic circuit to the telephone system after your tramway had been constructed, could it be done at the same cost then as before the tramway was constructed? Certainly; as far as I know, it could be done.
3095. Or, in other words, the construction of the tramway does not necessarily mean the permanent obstruction of the telephone? In no way.
3096. Supposing your own theory did not pan out exactly as you expect, you say, "I could get over that

P. B. Elwell, Esq. 24 April, 1896.

in two ways—one by these induction coils, and the other by applying metallic circuits to the telephone system, if necessary, at a cost no greater than it would be before"? That is so.

3097. *Chairman.*] Have you any objection to the poles which you propose to erect in the middle of the wider parts of George-street being done without, and the wires being suspended from poles erected on the kerb-line? No objection whatever.

3098. The scheme will be as efficient? Yes, in every way.

3099. Therefore it is possible to leave the street clear with the exception of the route taken by the tramway itself? Yes.

3100. It would be as clear as it would be if you had a conduit or a cable tramway? Just as clear.

3101. Would the poles along the kerb-line interfere with the fire brigade operations? No; I do not think so at all. The cross-wires would only be every 40 yards, and the height would clear all the fire-escapes and everything of that kind.

TUESDAY, 28 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Philip Billingsley Walker, Esq., M.I.C.E., M.I.E.E., Secretary to the Electric Telegraph Department, sworn, and further examined:—

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 28 April, 1896.

3102. *Mr. Humphery.*] You recollect the statement made by the Postmaster-General a few months ago as to the earnings of the telephones? I am not responsible for that.

3103. But you recollect the statement? I do.

3104. Who furnished the information? I did not.

3105. Then you cannot speak as to the accuracy or inaccuracy of the figures? No.

3106. Have you since prepared a statement as to the earnings of the telephone? I have not such a statement at the present moment; but I am having it made up; it is a very complicated matter. In the first place it is very hard to get at the cost of the system. It has been made up, I believe, to £108,000. I gave the amount as £92,000, but I believe it has been made up to £108,000.

3107. You think the approximate cost would be about £108,000? Yes.

3108. And what, approximately, would be the annual earnings? Somewhere about £28,000.

3109. About what proportion of that would be net? I could not say; I have not gone into that calculation.

3110. You cannot say approximately what the expenses are? I am unable to say; that matter is out of my Department; it is in the Accountant's Branch.

3111. When will the statement in the preparation of which you are engaged be completed? I daresay I could let you have it in a day or two—perhaps to-morrow.

3112. Have you had an opportunity to consider the evidence given before this Committee, more particularly your own statement as to the probable cost of providing a metallic circuit? I have prepared a statement, which, with the permission of the Committee, I will read to them. It is as follows:—

I have read Mr. Callender's evidence given before the Committee, and as he agrees with my views in regard to the necessity for the adoption of a metallic circuit if the overhead trolley system of electric tramway is adopted by the Railway Commissioners, there is no necessity for me to remark upon this portion of his evidence.

I entirely disagree with his estimate for the alteration of the telephone system, and I will show the Committee why his calculations are incorrect.

The reference to the report of the Committee of the House of Lords and Commons in 1893, and the Second Report of Committee to the Postal Conference in Melbourne, avers that the responsibility of protecting the telephones lines should be put upon the telephone companies, but there are no telephone companies in this Colony, and as the whole of the telegraphs and telephones belong to the Government, this does not therefore apply to the present case, because the cost, whether borne by the Postal Department or Railways, is entirely a Government one.

The sum given as £30,000, expended upon the tunnel system now under construction, is in excess, as the amount is under £20,000, and the Postal Department has in no way committed itself to the adoption of a metallic telephone circuit by this system, because the earth return cables can be used on the telephone system just as easily underground as overhead. As a matter of fact, the late military telephone system at the Heads was worked on a complete underground system, with an earth return circuit, which comprised the whole of the batteries at Middle Head and South Head, these being connected by two submarine cables across the harbour, and it was altered to a metallic system for the reasons already explained to the Committee. I have also been working a submarine cable of 4,000 yards by telephone from the Spit, Middle Harbour, to the powder-hulk, for the last eleven years, in conjunction with the overhead earth return system of North Sydney, and it always worked satisfactorily till the introduction of the electric tram on the Military Road.

There are also several other submarine cables connecting the North Sydney Telephone Exchange with the head office, and across the Parramatta River, connecting Hunter's Hill Exchange, as well as across the Spit, Middle Harbour, connecting Manly Exchange, and the aerial cables (a large number) attached to the overhead telephone wires throughout the city. A number of these aerial cables are over a mile in length, and have been working in all weathers, notwithstanding the fact that the sheathing of these cables has in no way been insulated from the earth; consequently, from an electrical standpoint, it would not make the slightest difference if the whole of them were put underground, as they could scarcely be more in contact with the earth than they are at present, and, mechanically, would be under more favourable conditions in the subways than when exposed on the poles.

It is asserted that wherever underground wires are used it is absolutely necessary to have metallic circuits, even though no electric traction wires were in use, but the latest opinion of Mr. Bennett, expressed in his book on the Telephone Systems on the Continent of Europe, published in 1895, describes the German Imperial telephone system as one of single wire and underground cables with earth return, and speaks of the Berlin Exchange (page 178), as "the largest in the world, connecting as it does some 25,000 connected instruments in the city itself, and 3,000 more in the suburban area." There are 142,269 kilometres of telephone wires (equal to upwards of 88,000 miles), and Mr. Bennett, on page 216, in speaking of the cables used by the German Government, of which he gives two illustrations, says:—"The copper resistance per kilometre is 31 ohms capacity, ·25 microfarads (microfarad being the unit of capacity), and insulation 250 megohms (megohm 1,000,000

1,000,000 ohms (the ohm being the unit of resistance). Mr. Clough has recently supplied several cables of this nature for use under the streets of Cologne, which are stated to show a capacity of ·75 microfarads per kilometre (kilometre ·621 mile). The results are said to be excellent. There is no overhearing between wire and wire, and a distance of 60 kilometres is said to have been spoken over. Each insulated conductor is wrapped in tinfoil, and four such conductors are twisted round an insulated copper wire, which is earthed when the cable is used for single circuits." It is therefore evident that the German telephone system, which is the largest in the world, proves conclusively that cables of moderate length are worked underground without the slightest difficulty, and can be worked just as easily in tunnels, iron pipes, or other conduits as on poles, as is now being done here and elsewhere in the whole of the Colonies, and my long practical experience convinces me that the gentlemen who have stated this cannot be done must be unacquainted with this fact, they having had no practical experience of telegraph or telephone engineering, their knowledge being principally confined to electric lighting or traction work.

Mr. Bennett, on (page 223) referring to Holland, states:—"The subscribers' lines in large towns are single, but the Netherlands Bell Company recognises the superiority of the metallic circuit, and some of its recently constructed exchanges have been fitted with it, as all future ones will also be. The Zutphen Company has adopted the metallic circuit, but the other concessionaries continue to run single wires." In Amsterdam there is a "considerable amount of underground work, the extent of which is growing rapidly." It is therefore evident that in Amsterdam, where there are 1,752 subscribers and a population of 426,914 inhabitants, that the greater portion of the telephone system is worked underground on cable with an earth return, and these are facts given by Mr. Bennett, who has recently studied all the continental telephone systems, and is therefore the latest authority on the subject.

At Zurich, where I spent a week in 1886, the subscribers' wires are generally single, with earth return, and there was a considerable amount of underground telephone wires in pipes. The number of subscribers is 2,769, with a population of 130,000, and since my visit electric traction has been introduced, but in this city, where they have electrical manufactories, and everything is very cheap, it has cost £1,600 per mile to put the telephone system under a metallic circuit which was rendered necessary owing to the introduction of electric trams, and has been shared between the Telephone and Tramway authorities.

It is therefore evident that it is not compulsory to use the cables in tunnels as metallic circuits, and the reason why the tunnels were commenced in Sydney is set forth in a paper laid before the Legislative Assembly, and ordered to be printed on the 30th March, 1892.

Mr. Callender states that the chief work necessary for the conversion of the telephone system consists of the duplication of the wires, which involves a certain number of new poles in addition to those already erected: but he overlooks the fact that he has made no provision for the largely increasing traffic, nor propounded any scheme for working the present system whilst the alterations are being carried out. No practical expert would ever attempt such an undertaking to alter a huge system without taking adequate steps to carry on the service in the meantime, as he would have the whole city about his ears in twenty-four hours, owing to the repeated interruptions to the business. Moreover, the present poles will not carry more wires or cables beyond the ordinary provision for increasing traffic on the present system of single wires, and if longer cross-arms were put up stronger poles would require to be erected. In speaking of the cable recently ordered for telephone work, Mr. Callender gives the price as £3 10s. per wire per mile, and the actual price at £150 per mile for the whole;—this is misleading. I would also point out that it would take two wires to each subscriber if used for metallic circuits; consequently, the cost per mile per circuit would be just nearly double what Mr. Callender puts down as per wire, viz., £6 9s. per mile.

The *Gazette* notice published on the 21st March, 1896, shows that Walter A. Noakes' tender was accepted at £155 per mile for the cable referred to, so that in this matter of 12 miles of cable, although the amount is given in the *Government Gazette* he makes an error of £60 in 12 miles of cable.

In response to Mr. Black's question (2176) as to how many miles of copper wire there are in 50 tons, Mr. Callender says, "If No. 12 were used the weight would be about 104 lb. to the mile, or 20 miles to the ton; therefore, in 50 tons there would be 1,000 miles." The *Government Gazette* of 23rd July, 1895 (notice now produced) shows that the Postal Department advertised for 20 tons of No. 12 (200 lb.) per mile H.D. copper wire, which gives a little over 11 miles to the ton, therefore, his calculation in regard to this is only 450 miles out, which would make a difference at the price accepted (£69 15s. per ton) for 25 tons short calculated, as per weight of £1,743; and it goes without saying that his estimate as to distance would only be covered half-way—a small item in Mr. Callender's estimation, and it is incredible to me how any expert could make such a misleading statement. At question (2195) he asserts he can get 25-feet poles delivered in Sydney for 7s. 6d. each, and put up for £1 each, but the class of pole he refers to is not one that could be used for city purposes. As a matter of fact we never use 25-feet poles for city purposes, except in a few cases, and such poles would be utterly useless except where the lines do not pass along a public thoroughfare. The poles that are chiefly used in the city are 40-feet, 46-feet, and 50-feet poles, and the prices for these poles average £10 each, though in individual cases they are shown in our books at £15, and in some cases £20 erected, as they are expensive to handle and cart, being so cumbersome, besides, the cost of erection varies very much, according to the sinking, which in many parts of the city is in hard rock, adding materially to the cost.

In response to question (2266) Mr. Callender states that the Postal and Telegraph Department pays £4 16s. per mile for the cost of wires and erection of telegraph lines, which is entirely erroneous. There is no record of any such contract within the last fifteen years for the supply of wire and erection of such a telegraph line.

As regards Mr. Callender's estimate of insulators, I estimate that sixty to the mile will be necessary for running the two wires for each subscriber under an entirely new system, making 189,000 insulators in place of 157,500. Then, again, he has made no allowance for cartage and breakages, and the actual price of the insulator is put down at the cost in store, which is not a fair estimate.

Eighty thousand cross-arms are estimated at 6d. each. Now we are actually paying 9d. each for short (2 ft. 3 in.,) and 2s. each for long (6-feet) tallowwood cross-arms bored, but these have to be painted, and they average all round 1s. 6d. each—80,000s., or £4,000 in excess of Mr. Callender's estimate.

There is also no provision made for 80,000 bolts and nuts to fix the cross-arms to the poles, which, at £1 per cwt. (the price now paid) would give a further deficit of £552 to be added, while there is painting also to be provided for.

Up to to-day we have upwards of 160 applications for new connections, and taking these at an average of 1 mile from the Exchange, that means 160 miles of either new wire or line, and within the last two months it will make over 200 miles added, on or at the average rate of 100 miles per month, and it is impossible to say how many more may be expected after the reduced rates come into operation on the 1st May.

It will be seen that Mr. Callender's estimate is not one given by an expert, fully acquainted with a large telegraphic and telephonic system, but his estimate is based upon a calculation for an electric light contract, such as at Flemington, an entirely erroneous basis that would lead to the gravest complications, and involve any contractor who adopted such an estimate in absolute ruin.

Looking at the German system, I do not see why there should be any necessity for altering the present telephone system throughout the city for the next twenty years, although I thought at first it might come in ten years, and by that time it could merge into a metallic circuit system, but it would have to come soon if traction wires were largely introduced at once.

I feel confident in making this assertion, because, looking at the present telephone system, as compared with the gigantic system in Berlin, which up to date comprises 28,000 telephone connections in the city and suburbs, and all working on an earth return, with both underground and overhead wires, clearly shows that a metallic circuit is not required except to provide for the traction wires.

I have already stated that I saw no objection to electric traction, proposed by the Railway Commissioners, as a traction service, and I repeat this in order that the Committee may understand that the expert evidence I am giving is only to prevent future trouble in regard to the telephone systems of the Colony from being seriously interfered with by electric traction wires unless the telephones are placed under a metallic circuit.

It is stated by Mr. Callender that there will be no difficulty whatever in converting the present switchboard into a metallic circuit one. This, no doubt, could be done, but in doing it what would you do with all the subscribers. You must provide for the traffic, and as there are some 40,000 calls daily, with increasing business, it would be absolutely impossible to carry out any such suggestion without completely duplicating the old system, because there are tens of thousands of connections attached to the board of such a nature that it would mean virtually shutting up the Exchange for several years; therefore, it is not merely the erection of 5 miles of wire per day that has to be considered. Mr. Callender says that 10 or 20 miles of wire per day could be erected, but this is quite out of the question in a city where only

P. B. Walker, Esq., M.I.C.E., M.I.E.E.

28 April, 1896.

a comparatively few trained men can be employed. Rapid work of this kind could only be done in country districts, where there is free scope, without existing complications, and large gangs of qualified line-men could be employed, were they suitable, which cannot be done in the city, as it would be absolutely necessary to have men on the work with expert foremen, otherwise it would lead to endless trouble, confusion, and stoppage of all business.

In the *Electrical Review* of the 23rd November, 1894, the National Telephone Company are stated to have opened their principal station in Lime-street, London, under a metallic circuit system, and their new switchboard is described as one of the latest designs of the Western Electric Company, known as the branching system, and is different to the older kinds of multiple boards, as the usual positions of the indicators and spring-jacks have been changed on the boards, instead of being below the jacks, immediately in front and within easy reach of the operator, the indicators are above the jacks, and out of the operator's reach. This company found it necessary to put in the new board at, I believe, a cost of £25,000, to accommodate 3,000 subscribers, and I look upon it as a convincing proof that my opinion is fully borne out that it is absolutely necessary in providing a metallic circuit, to first obtain a complete metallic switchboard, as I feel satisfied that this company, which has some of the smartest telephone men in London in its service, would not expend such a sum as this upon a new board if their other switchboards could have been converted for metallic circuits. Moreover, the electrical experts acting as their advisers would have been highly culpable if they had permitted their board of directors to adopt such a course; but, from all I can gather, the whole of the experts were unanimous in their opinion, showing clearly that such an expenditure was required in order to obtain the object in view, viz., a complete metallic telephone circuit without causing interruptions during the alterations.

I am sure that the Committee, as business men, will see the force of this statement. Mr. Callender, in Question (2333), thinks that it would be decidedly unfair to charge a part of the cost of duplication, but Dr. Preller, in his article in the *Electrician* of 10th January last, shows that the Traction Company and the Telephone in Zurich each bore half the cost, and I think it is clear that the decision of the Joint Committee of the House of Lords and Commons is not observed as a hard and fast rule, at all events, on the Continent; but, as already pointed out, the Government here will have to pay the whole cost, no matter how it may be divided between the two services.

The present system of telephones under the Postmaster-General's Department is certainly one of the best in the Australasian Colonies, and during the last three years has been greatly improved, as nearly all the old-fashioned Blake, Theiler, Berthon-Ader, and Crossley telephones have been weeded out, and the latest modern pattern of Hunning's and Ericson's telephones introduced, and I may say that I have seen most of the largest telephone exchanges in all parts of the world, and this Colony will compare favourably with any of them. In London, when I was there in 1886, the system then in use was not to be compared with the present service in Sydney. In New York they were then working a large number of the Blake and other inferior telephones, but I see that recently they have introduced 20,000 of Ericson's telephones from Sweden, which are among the most sensitive telephones in existence, and will, no doubt, be a great improvement on their present instruments.

Mr. Callender, in Question (2237), says that the telegraph wires caused quite as serious a disturbance to the telephone wires as a tramway. This is not my actual experience. although telegraph wires do no doubt affect the telephone, but not to such an extent as to prevent their working, because the current used upon an ordinary telegraph line only amounts to a few milliamperes, whereas the current employed on a traction system comprises hundreds of amperes, a fact in itself that proves clearly that there is no comparison between the interference of tramways and the interference of the telegraph with the telephone.

In Paris, Berlin, and Vienna, three of the largest cities on the continent which I visited, the telegraph and the telephone wires were running in a great many places parallel with each other, and the two systems are in juxtaposition and running so intricately together that it would be difficult to run one system overhead in a large city without the one being in close proximity to the other, but in many cases they are separated, though it cannot be done in all instances without incurring considerable extra expense.

The alteration to the telephone system of Sydney would not only affect 2,000 or 3,000 subscribers but would affect the whole telephone system of the city, including all trunk lines to the suburbs, because any induction or leakage from the main traction line would be perpetuated throughout the city, and though Mr. Raw has stated that a telephone wire 50 feet away from a traction line would not be affected by any induction or leakage from the traction line, I prefer, as an expert of nearly forty years' experience in these matters, to take the opinions of such experienced men as Lord Kelvin, Mr. Preece, and Dr. Hopkinson, who have given it as their opinion that the traction circuits affect telephones within a radius of 2 miles, and Mr. Raw's experience only extends, as well as Mr. Webb's, to electric light systems with a return circuit, and even that affects the telephones.

Mr. Deane, in his latest statement, understands that the alterations would only cost £50,000, and his opinion as an experienced engineer is certainly of more value than those of persons who have only had a knowledge of electric lighting, in addition to which he has recently inspected the largest systems of electric traction in existence all over the world, but he does not say positively that he gives this as his estimate of the cost I, therefore, take it that he must, judging from the evidence given, have been misled by these statements which have been made to him by the other gentlemen who have given evidence, and therefore I cannot accept his view as having the stamp of the result of his own personal investigation of the subject, and he shows the caution of a careful and experienced engineer as he is well aware like all experienced engineers that the great difficulty in carrying out works of this nature is to avoid a large bill of extras, which some engineers, through inexperience in dealing with great works, often plunge their employers into, and thereby ruin contractors, companies, and involve Governments in enormous expenditures, which by foresight in the first instance is to be avoided. In all my estimates in carrying out works I have done this, and it is a rare occurrence, in fact, I have no recollection of my estimate having been exceeded in the last thirty-eight years to any material extent.

I will now give a further detailed estimate, and I may here point out that I find in going over my figures again that I omitted to allow for the value of old wire, &c., when providing for new wire for complete metallic returns, so that the item of £79,600 will be reduced by this amount, or for 3,150 miles of wire at a little under £5—£15,644.

Details of Estimate.

12,900 poles, as follows:—2,500 from 46 to 50 feet in length, to be erected in city, at £10 each	£25,000	
10,000 poles, as follows:—40-feet lengths for connections with city and trunk lines, suburbs, at £10 each	100,000	
400 spare 46 to 50 feet poles for renewals and additions, at £10 each	4,000	
		£129,000
3,150 miles of H.D. copper wire (single), 200 lb. per mile, at £7 per mile, including cartage, &c., £22,050; doubling this for metallic circuits	£44,100	
193,500 insulators, at 9d. each, being at the rate of 15 per pole for 12,900 poles	7,256	
Labour for erection of 6,300 miles wire (metallic circuit for 3,150 miles) at £2 per mile	12,600	
		63,956
Additional wiring required to provide for extra metallic circuits 100 miles 25-pairs cable for repairs, emergencies, &c.		15,000
50 tons H.D. copper wire, at £70 per ton		3,500
Unforeseen expenses		5,000
Complete metallic multiple switchboard of 3,500 numbers		20,000
Total		£236,456

3113. Notwithstanding the evidence to the contrary of witnesses who have appeared before us, do you assert that the effect of the introduction of the electric tramway into George-street would involve the Government in an expenditure of nearly a quarter of a million of money in order to place the telephone system under a metallic circuit? That is my estimate—I do not say that it will cost that amount.

3114. Having summarised your estimate, will you point out where you differ from experts who have been examined as to the cost. Take the first item—poles. The evidence given to us is that instead of 12,900 poles being required, 600 poles only will be necessary. It is asserted that it would not be necessary to have a number of poles at a great distance from the telephone exchange similar to the number in its immediate

P. B. Walker, Esq., M.I.C.E., M.I.E.E.
28 April, 1896.

immediate vicinity;—do you think you would require the same description of poles for the suburbs which you would require for the city; and would you tell us whether many of the present poles could be used? That could not be done, because, in the first place, you would have to establish an entirely new system.
3115. But in the new system could you not make use of the existing poles? None of them could be used until the new system had been completed.
3116. What you mean to say is that the metallic circuit would involve new material throughout? Yes; there would be a complete new system.
3117. Therefore, so far as the completion of a metallic circuit is concerned, the whole of the existing system would be so much waste material? Yes; it would have to be used as old material.
3118. The course you suggest is the only course possible to provide a metallic circuit without a serious and long interruption to the telephone system? That is so.
3119. In one portion of your statement you say that otherwise there might be an interference lasting, perhaps, for several years;—will you explain that? Yes; it simply means that if you attempt to interfere with the present system there must be an interruption in the communication. Of course, if you established a complete new system in the first instance there would be no interruption of the present system. If you put other wires upon the present poles you will cross all your wires, and cause an interruption. Again, there would be the interference with the switchboard. You must get certain numbers off before you put other numbers on.
3120. In that respect, then, you think the suggestions which have been made to the Committee are quite impracticable? Any proposal to utilise the existing system would interfere with the working of the exchange, and for that reason it is impracticable.
3121. You consider it impracticable as involving a suspension of the telephone system? Quite so.
3122. You think the only way to introduce the metallic circuit without causing such a suspension would be to establish an entirely new system in the first instance; the existing system being used in the meantime? Yes; a new system has been put down in London in that way.
3123. You think the metallic circuit could not be introduced for a less expenditure than your estimate of £236,000? That is my opinion.
3124. With that expenditure there would be no suspension of the existing system? If the metallic circuit were carried out as I suggest, there would be no interference in any with the present telephone system.
3125. You think that any attempt to use the existing system in making the changes which have been suggested by experts would end in failure? Any attempt to tamper with the present system by way of converting it to a metallic circuit would seriously interfere with the business of the exchange.
3126. *Chairman.*] Your estimate of £236,000 would give us a completely new system under a metallic circuit? Yes.
3127. And with that expenditure there would be no suspension whatever of the present system? None whatever.
3128. That being so, what becomes of the telephone poles and wires at present in existence? They would have to be used up as old material.
3129. What is the value of the poles and wires now in existence? It is a difficult thing to estimate, because some of the wires have been up for twelve or fourteen years, and they have been so cut about by connections and inter-connections that when you came to deal with them after they had been pulled down I am afraid you would find that they would not be of much use.
3130. Therefore this sum of £236,000 carries with it the asset of your present service? Yes.
3131. *Mr. Humphery.*] Assuming the total cost of the existing system to have been, in round figures, £100,000, how comes it that you have estimated the cost of introducing a new system with a metallic circuit under more favourable conditions at more than double that sum? The better class of material I propose to use would account for the difference. It would give you a better service altogether.
3132. *Chairman.*] What is your opinion of the comparative merits, electrically, of copper and galvanised iron wires? There is no comparison between them. Copper is the superior wire, and is recommended by all the greatest experts; it is the best material for telephone work, overhead or underground.
3133. Supposing you were about to bring into existence the telephone service which you now have, and which you say has cost £109,000, what would be the cost? That I could not say. I have not estimated it. No modern expert would recommend the use of galvanised iron wire at the present time.
3134. *Mr. Lee.*] You are aware, I suppose, that the Electrical Engineer of the Department of Railways proposes now to add the slide contact system;—have you considered the question from that point of view? I understood the Committee were considering the trolley system. If the Committee were going to adopt a slide contact system it will cost a great deal more than the system which has been submitted to them.
3135. Would the slide contact system minimise the trouble in regard to the telephones? It might minimise the trouble, but it would not get rid of the difficulty altogether; in fact, experience has proved the contrary.
3136. Supposing this electric traction were laid down as proposed, taking every precaution to avoid interference with your telephone system, and it were afterwards discovered that there was a disturbance to the system, do you think the introduction of the induction coil repeaters make any difference? That is a problem which has to be worked out. There is no system of which I am aware that is worked on that principle. It would be an experiment, I should think, and in my opinion when you are dealing with a huge concern like a telephone exchange experiments are bad.
3137. Let me refer you to Mr. Elwell's answer to Question 3092? I do not agree with the answer to that question. There may, perhaps, be some modern experiment with which I am not acquainted.
3138. *Mr. Clarke.*] Do you regard Mr. Callender as a thoroughly competent electrician? He is an electric-light engineer.
3139. Do you think he understands the working of the telephones? He himself admits that he has had no experience in connection with telephone arrangements.
3140. He said the present switchboard could be made to answer with an expenditure of some £7,000 or £8,000, whereas you say it would cost about £20,000 to convert the board? I do not know how Mr. Callender arrives at such a conclusion.
3141. You do not think the present switchboard would answer? It could be converted, but it could not be done without interference with the traffic. It would take a considerable time to do it.

P. B. Walker, Esq., M.I.C.E., M.I.E.E. 28 April, 1896.

3142. Let me refer you to Mr. Elwell's reply to Question 3061? I do not know how Mr. Elwell arrives at that conclusion.
3143. You do not think it is correct? I do not think it is. I feel quite satisfied that no traction service could be put down without interfering with the telephone system. I do not think any electrical expert would give an opinion to the contrary.
3144. In the event of the Committee recommending the building of this tramway, the only means of avoiding the interference would be to establish an entirely new telephone system before the old one was interfered with? Yes; the only way to get over the difficulty is to have a complete metallic circuit.
3145. *Mr. Fegan.*] I noticed in your former evidence a number of letters from subscribers complaining of hindrances to the telephone system at Neutral Bay and other places;—I suppose you have a great many other letters of similar purport? I have several more.
3146. You had not any in connection with other branches of the telephone which are not disturbed by the Military Road tramway? We get various complaints of disturbance. I never received any complaint from Mr. Callender in regard to that matter. It has never come before me. Perhaps he complained on the telephone. If he did so, I am not aware of it.
3147. In giving your evidence the other day did you not make a mistake in reference to the number of insulators; according to your statement there would be something like 10,000,000? I spoke without allowing for the extension of more than a mile in the city, which would have a large number of insulators on the poles. As a matter of fact, the number of insulators would be something under 2,000,000.
3148. *Mr. Roberts.*] Do you regard the metallic circuit system as a perfect one? You could not have a more perfect system for a telephone service.
3149. If the metallic circuit were adopted at once, you think that all the complaints to which reference has been made as to the unsatisfactory character of the present system would disappear? If it could be adopted at once I am satisfied all the difficulties would disappear.
3150. Would you not then feel justified at the present moment in recommending the Government to adopt the metallic circuit system irrespective of the construction of the proposed tramway? I should not feel justified at the present time in making the recommendation. We have the fact that the German Government are at the present time working 28,000 telephones on the earth return system.
3151. Has not the London system been changed to a metallic circuit system? Yes; the whole of London is, I ascertained yesterday by cable, under a complete metallic circuit; but the telephone system there is largely in the hands of private companies, and they put in the metallic circuits because their subscribers were leaving them. In our case we have the reverse. We are being pushed by subscribers. They are coming in at the rate of four and five a day.
3152. Do you not think that subscribers in the city and suburbs should have a perfect system? I should be very glad indeed to see a metallic circuit established. It would save the Department a great deal of trouble; but it is a question of expense. I do not think the subscribers have a bad service at the present time. They have a service which answers all purposes, and that being so I would not feel justified in advising the Postmaster-General to adopt the metallic circuit.
3153. You have said that you thought the present system would answer all purposes for the next twenty years; but would it not be better policy to introduce the metallic circuit at once, instead of waiting until the subscribers were double or treble their present number—would it not be better to make the change now while the subscribers are comparatively few in number? It is a question of expense. I do not think I should be justified in recommending the alteration now, seeing that the present system answers all purposes.
3154. *Chairman.*] You assert that in the present state of electrical science it is impracticable to construct an electric tramway in George-street that will not affect the telephones? I am of that opinion.
3155. You have already mentioned an article under date 12th January, by Dr. Preller—I suppose you would regard him as a competent man? I believe him to be so.
3156. Does he not point out that the interference to which you refer has not taken place in cities where proper precautions have been taken? The cities to which he refers are only small ones, and in those cases they have had to adopt a metallic circuit. He refers to the case of Geneva. That is a mountain tramway—it is not the case of a tramway in a city.
3157. It is perfectly clear that he alludes to telephones in such towns as Geneva and Basle, because he deals in his article with the difficulty of finding a reason why the telephone works at Geneva and does not work in other towns similarly situated;—he points out in conclusion that a good slide contact system in conjunction with well constructed motors is less liable to affect telephones having earth returns than is the trolley system? It is less liable.
3158. The evidence you have given us from Lord Kelvin and others has been based upon the trouble caused by the trolley system? Yes.
3159. Therefore, it does not apply to the bow system of contact? I think it applies to all overhead systems.
3160. It appears that the ordinary trolley system has been altered in Geneva to a bow system, and Dr. Preller informs us that with the new contact the trouble is much lessened; Lord Kelvin was speaking of a state of things prior to the invention of the bow system? I quite see that; but it does no alter my opinion.
3161. Do you think the new system is calculated to minimise the trouble? It may minimise it; but no overhead traction system can be carried out without leakage in some shape or form, or without induction being forced through on to the telephone system.
3162. If Dr. Preller is of opinion that with a properly constructed tramway, using proper contact, telephones are not seriously affected, what would you say to that? I do not think that is Dr. Preller's opinion; and from his article it is very difficult to make out what he does mean.
3163. You say that prior to the introduction of the electric tramway on the Military Road all the telephones in the vicinity of the Spit worked satisfactorily? Yes.
3164. Do you assert that in those cities where the earth return system exists—cities such as Berlin—there is an absolutely satisfactory telephone service? I could not say that. I was in the city of Berlin in 1886, and I then looked at their telephone system. It appeared to be in good working order, but it has since grown rapidly. The system is perhaps not as satisfactory as the metallic circuit, but the German Government will not go to the expense of that system, and, inasmuch as our present system works fairly well, I could not at present recommend the Postmaster-General to go to that expense.
3165. You could not tell us definitely whether the cities you refer to as having earth returns have satisfactory telephone systems? I express no opinion except in general terms. I believe the earth returns are satisfactory, but in order to make the system thoroughly so it is desirable to have a metallic circuit.

3166. There is a metallic circuit system at Zurich which has cost £1,600 a mile;—taking that as your basis, what would such a system cost in Sydney? There is no comparison between the two places. P. B. Walker, Esq., M.I.C.E., M.I.E.E.
3167. How many miles would there be in Sydney? I could not now say exactly, as it has been added to considerably since my first evidence; but I have given it as 3,150 miles of wire. You must remember that everything is very cheap at Zurich, and there they simply bury the wires in the earth. 28 April, 1896.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, sworn, and further examined:—

3168. *Chairman.*] You hand in a statement which you desire to have printed as an appendix to your evidence? Yes. [*Vide Appendix.*] P. B. Elwell, Esq.
3169. The slide contact system which you spoke of at the last meeting would be more costly than the trolley system you previously referred to? There would practically be no greater cost. 28 April, 1896.
3170. Would the wear and tear be greater? No; I think the wear and tear might, perhaps, be reduced.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

3171. *Chairman.*] You hand in a statement with reference to the cost of conversion which you desire to have printed as an appendix to your evidence? Yes. [*Vide Appendix.*] H. Deane, Esq. 28 April, 1896.

THURSDAY, 30 *APRIL*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. Charles James Roberts, C.M.G.	Thomas Henry Hassall, Esq.
The Hon. William Joseph Trickett.	George Black, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, sworn, and further examined:—

3172. *Chairman.*] You have some further evidence to give in reference to the proposed electric tramway? Yes; I have a statement here, which I will read:— H. Deane, Esq. 30 April, 1896.

Mr. Walker, in his statement on page 2, says that "It is asserted that wherever underground wires are used, it is absolutely necessary to have metallic circuits, &c." I would say that this is correct if special cables are not used (anti induction with tin-foil covering), but the cables recently ordered by Mr. Walker are not of this type. Mr. Walker quotes from Bennett's book on the telephone systems of Europe, page 178, that "the Berlin Exchange is the largest in the world"; this is also correct, but on the same page Mr. Bennett says that the system proves unsatisfactory, and that the overhearing on some of the single wires is very pronounced. Mr. Walker further quotes from page 216, the specification for cables for the German Government, but omits to point out that these are special anti-induction cables, while, as already pointed out, Mr. Walker's specification for Sydney does not provide for cables of this type, but for those used on metallic circuit.

As it is, subscribers are crowding on in all parts of Germany, and the public money is being spent in connecting them in a manner which is already recognised nearly everywhere else—even in Servia, Bulgaria, and Roumania—as obsolete. In a few years more the machine will have become so huge and clumsy, and the trunk-line speaking so immeasurably inferior to that which will prevail in neighbouring States, that an entire reconstruction will have to be undertaken at enormous cost.

Again Mr. Walker quotes from page 223, the case of Amsterdam, but also omits to say that special anti-induction cables are used, and he should also have quoted from page 238, "It will be seen that the ultimate adoption of the metallic circuit is borne well in mind."

Mr. Walker quotes Zurich, and says that the metallic circuit has been introduced on account of electric tramways; this goes to show that it was not considered desirable to use earth return with underground telephone cables.

In the next paragraph Mr. Walker says, "It is, therefore, evident that it is not compulsory to use the cables in tunnels as metallic circuits," but from a careful study of Mr. Bennett's book it is found that wherever underground cables are used with earth return these cables are of special construction to make them anti-inductive by wrapping the individual wires in tin-foil, and also that hardly any work on this principle is now being undertaken, and all new work of any consequence is being done on the metallic return system.

Subscribers' wires are generally single, with earth return, but all trunks and many of the junction lines to parochial stations are metallic circuits, translators being employed for the connections between the two. It is pleasant to know, however, that the Swiss are alive to the inadequacy of the single-wire system as a permanent institution, and have decided to gradually supersede it everywhere by metallic circuits. A very earnest and creditable beginning has already been made at Zurich, and similar changes are to follow immediately at Berne, Geneva, and Lausanne.

Another quotation from Mr. Bennett's book, page 214, about the German telephone system, clearly shows what his opinion is on underground earth return: "Numerous types of cable have been tried, mostly insulated, with india-rubber or gutta-percha, served with metal foil for earthing. * * * * * The underground work, so far, is understood not to have been an unalloyed success, which is not surprising, when the plan usually followed has been to suppress one evil—overhearing—by exaggerating another—capacity. The growing importance of the trunk system will eventually force a resort to metallic circuits, and then the want of foresight which has prevailed will be deplored."

In the introduction to Mr. Bennett's book, page 29, the author says, "The service of a telephone exchange should be the first consideration. This opinion has always led the author to advocate the universal use of metallic circuits, without which privacy of conversation and speech undisturbed by strange noises, together with effective long-distance talking, is unattainable."

Mr. Walker, on page 7 of his evidence, again quotes the German system as a basis on which he estimates that it will not be necessary for the next twenty years to resort to metallic circuits in Sydney; but, as has already been shown by quoting from Mr. Bennett's book, the German system is not working satisfactorily, and appears to be about the least perfect, so far as the telephonic circuit is concerned, of any on the continent of Europe.

On page 11 of Mr. Walker's evidence he says, "Electric light systems, with return circuits, and even that affects the telephones." It will, therefore, be seen that metallic circuits will become necessary when the city is to be lighted by electricity, which will certainly not be delayed many more years.

With regard to the question of converting the switch-board now used in connection with earth return to metallic circuit, a quotation from Mr. Bennett's book, p. 335, will show that this can be done without interfering with the efficiency of the system.

Speaking of Stockholm, "He had at this period (1890) over 5,000 subscribers working in Stockholm alone. This service was as good as is compatible with single wires. But that was not enough, and the State had scarcely got its exchange in operation before the General Company began to convert its system to metallic circuit, section after section of the multiple switchboard at the central station being altered to meet the new requirements, communication between the two sets being kept up by means of translators, until in 1894 there was not a single wire left in Stockholm."

The

H. Deane, Esq.

30 April, 1896.

The Electrician, London, 24th September, 1886.—Electric induction between wire and wire, by W. H. Preece.

Discussion.

Professor Silvanus Thompson. . . . . They knew that a current in returning through the earth did not, as some people imagined, run straight along the ground underneath the wire, but spread out into a current sheet and flowed round in curves from one earth plate to the other, very much as the lines of force of a magnet curve round from pole to pole. The result of this was that if a neighbouring line, or even one many miles away, had its two ends put to earth anywhere on one of the curving lines of flow, a portion of the return current of the first line found its way through the second line. But this was not induction at all. A case occurred not long ago in a telephone installation, which he knew something about, in the North of Ireland, where the telephone wires were laid parallel to an electric tramway. The engineer of the line reported that it was hopeless to work it, there being such an amount of induction on the line that it kept on ringing the bell. But that could easily be obviated by putting in a return wire, which was the cure he suggested, and which was found to be perfectly satisfactory.

Mr. Traill said that in the remarks Professor Thompson had made about the electric tramway in Ireland he had no doubt that that gentleman referred to the Newry and Bessbrook electric tramway. He (the speaker) could cite another case, namely, that of the Giant's Causeway tramway, where they ran for 6 miles alongside the post office telegraph wire, which was distant only 28 feet from the conductor rail of the tramway, and where there were a very great variations in the current of the conductor rail, which was worked with heavy potentials, and yet during the few years that they had been working with the post office wire alongside of them, they had never had a single complaint of interference with the messages on the part of the post office. He mentioned this as an example where induced action did not take place to any appreciable extent upon a telegraph or telephone wire.

Mr. Preece, in reply, stated :—"The cure for these disturbances between telegraphs and telephones was as simple as possible, namely, to invariably use a metallic circuit. Why telephone companies had been so foolish as to exercise the false economy of depending upon single wires was one of those puzzling things which were not possible of explanation. In the post office, as soon as they were perfectly satisfied that induction was the main cause of the disturbances, they decided to use double wires, and they never used anything else anywhere. . . . He would use metallic circuits everywhere."

As regards the details of Mr. Walker's estimate, I should wish to make the following remarks :—

"Considering that the existing lines are carried on about 6,000 poles, and on the greater number of them there seems to be plenty of room for additional wires, I cannot see the necessity why provision should be made for 12,900 new poles, and I still hold that about 500 poles of the heavier type would cover all present requirements, especially as provision has already been made to take some wires underground.

"I cannot see the necessity to completely abolish the existing wiring, and by duplicating the wires in galvanised steel, the estimate can be reduced enormously, but, even if the new additional work were to be done in copper, only half the length, and wire of much less than half the weight per mile, would be more than sufficient; this would reduce the item of £44,000 down to about £10,000. Again, the number of insulators is not required, only sufficient for duplicating existing ones, with cost of labour and erection, will be necessary.

"In an estimate like this it seems altogether absurd to provide for spare poles, cables, and hard-drawn copper, for renewals, repairs, emergencies, &c., as these items have absolutely nothing to do with new work, and provision for further additions has no right to appear.

"I may further point out that, where a large number of wires is laid in close proximity, it has been found to be just as cheap to put them underground in cables as to erect them on poles."

I now give an abstract of details of telephone circuits in the principal countries and cities of the continent of Europe from A. R. Bennett's book on the telephone systems of the continent of Europe :—

Vienna ..... Single wire, earth return; is now in course of conversion to metallic circuit.
Belgium ..... Single wire with earth return; in course of conversion to metallic circuit; State ownership.
Bulgaria ..... All metallic circuits.
Denmark ..... Single wire, earth return; in course of conversion to metallic return; Copenhagen partly converted with underground mains.
Finland..... Partly earth return, and partly metallic.
France ..... Paris, metallic return; all Government lines have a metallic return.
Germany .. ... Single wire, earth return; result bad; in Berlin it is working very badly.
Holland ..... Part single wire, earth return, and part metallic return; Amsterdam, single wire, earth return, trunk lines metallic return cables.
Hungary ..... Single wire, earth return.
Italy..... Part single wire, earth return, part metallic return.
Norway ..... Single wire, earth return; Christiania, is in process of conversion; it is proposed to put in a latest type switchboard for 9,000 circuits, to cost £10,000.
Portugal ..... Single wire, earth return; no underground work.
Russia ..... Single wire, earth return; no underground work.
Servia ..... Metallic circuit.
Spain ..... Entirely metallic circuit.
Sweden ..... Entirely metallic circuit; Stockholm switchboard was the same as the one in Sydney, but has now been altered.
Switzerland... Single wire, earth return; is now in course of conversion to metallic circuit.

It is found that telephones are used most extensively in those places where service is good. Sweden is a notable example, the charges are low, metallic circuits are used, and all wires are underground. The system pays interest at 5½ per cent., and the charges are the lowest of any place :—

Stockholm ..... £5 11s. 1d. per annum.
Christiania ..... £4 3s. 11d. per annum.

3173. *Mr. Trickett.*] In regard to the extract which you have read from Bennett's book giving the opinion of Mr. Preece that the metallic circuit is apparently the only cure for interference with electrical action on the part of the tramway wires, how do you reconcile that with this statement, made in a letter by the Railway Commissioners, dated 15th April, 1896: "The Commissioners desire me to inform you that no interference with the telegraph or telephone wires can occur except as a result of imperfect construction or maintenance of the electrical portion of the tramway plant"? In the first place the extract which I read was from a statement by Mr. Preece, in the *Electrician*. The interference referred to by him was not tramway interference; it was interference in London from the telegraphs.

3174. Then you endorse the opinion given in that letter? No; I have had nothing to do with writing that letter.

3175. You do not endorse that opinion? I leave it to the electricians to decide. The whole subject of my remarks and the statements which I previously put in, have gone to show that our telephone system is imperfect, and that it requires completion independently of any electric traction.*

* Note (*on revision*) :—I wish to add the following extract from the *Engineering News and American Railway Journal* of 23rd January, 1896, to show the amount of traffic in the city end of Broadway, New York :—"The passenger and vehicle traffic upon Broadway, New York, has entered into the rapid transit investigations now in progress. Mr. S. E. De Witt testified that he had spent three days, at different points on Broadway, counting the vehicles and foot passengers. At a point between Twenty-first and Twenty-second Streets, between 7 a.m. and 7 p.m. of 14 December, he counted 6,510 passing vehicles, and 14,400 persons using the east sidewalk, and 53,807 passing on the western sidewalk. On 16 December he took his stand between Chambers and Vesey Streets; down town, between 11 a.m. and 7 p.m. he counted 5,150 vehicles, and between 7 a.m. and 7 p.m. 38,805 people passed down the east sidewalk, and 41,530 down the west. On 17 December he was between Fulton and John Streets, and for the twelve hours he counted 8,630 vehicles, and 59,360 people on the east walk, and 50,600 on the west. For the whole of Broadway thus counted, the general average would be about 634 vehicles and 7,183 people passing per hour."

Richard

Richard Threlfall, Esq., M.A., A.M.I.C.E., Professor of Physics, University of Sydney, sworn, and examined:—

R. Threlfall, Esq., M.A., A.M.I.C.E. April, 1896

3176. *Chairman.*] What are you? I am Professor of Physics at the Sydney University, and an Associate Member of the Institute of Civil Engineers.
3177. Have you a knowledge of the scheme that the Committee has under consideration in general terms? Yes.
3178. In your opinion is electricity the best power for traction purposes in the city? Undoubtedly.
3179. There are three systems known to the Committee—the accumulator, the conduit, and the overhead system; which is the best commercially? The overhead system, undoubtedly.
3180. Is it the most popular? Undoubtedly.
3181. We desire to know definitely from you how the telephones of the city are likely to be affected by the proposed electric traction? They are sure to be more or less adversely affected.
3182. We are given to understand that there are two ways in which they are affected—one by straight current, and the other by induction? Yes.
3183. Were we correctly informed that those are the two difficulties that we have to deal with? Yes.
3184. We have been further informed that by using the storage battery—by using the three-wire system, by balancing the load so as to make smooth running, the difficulty will be got over;—is that so? I do not think it will be got over; I think it will be reduced.
3185. Still the telephones would be prevented from working? I should not like to say that. I could not say without the detail consideration of the wiring, whether the disturbance would be sufficient to entirely prevent speaking on the telephones. It would be inimical to the telephones; it would interfere with them; but whether it would prevent them from being used or not is a thing which I could only be certain about after very detailed consideration.
3186. Although the best means known are used in the construction of the tramways to prevent either induction or straight currents it is certain that there will be some interference with the telephone? Absolutely certain, I think.
3187. Notwithstanding all the precautions that may be taken? Notwithstanding all the precautions that may be taken in the construction of the tramways.
3188. That is beyond doubt? I think so.
3189. The proposal of the Department is, first of all, efficient bonding of the rails; the rail being laid directly on concrete, a special form of trolley or bow, ensuring perfect contact between the tram wires and the rails and thorough methods of storage batteries in connection with the line, using the three-wire system, balancing the load as smoothly as possible, and the smooth running of the cars. Having taken all these precautions you still say that there will be some interference with the telephone? Yes.
3190. You are not prepared to say to what extent? I am not.
3191. It would be detrimental to the telephones? Of course.
3192. Do you know of any further steps that might be taken in connection with the construction of the tramways that would be likely to bring about better results than I have mentioned? Yes; by having a metallic return circuit.
3193. In regard to the construction of the tramway? Yes; you might have a metallic return circuit, but that would be undesirable from an engineering point of view.
3194. Do you recommend it? No, certainly not. It is very undesirable from a tramway construction point of view.
3195. Why? Because it very much complicates the working of the line. It complicates the points and the crossings. Two wires have to be brought into contact with every car, and it introduces a host of little difficulties.
3196. You would not recommend it? Certainly not; it is very much to be avoided. It would not be a remedy; it might be a mitigation.
3197. The methods proposed by the Department in regard to the construction of the tramway might lessen the difficulty with regard to telephones, but would not be entirely effective? I do not think it would be absolutely effective.
3198. Do you understand exactly what we mean by the bow contact? Some particularly good method of making contact between the car and the trolley-wire; but supposing you do that, you still have in the car contact between the commutator and the carbon brushes.
3199. Is there any way known to science by which electric traction on tramways can be prevented from interfering with telephones? I think not.
3200. Mr. Elwell says, "The ordinary condition of trolley working is somewhat imperfect, and that produces a slight break in the current frequently as the car runs, and every break in the current causes an induction of surrounding wires. That we intended to overcome either by not using a trolley at all, or by using a trolley and a sliding contact behind it; so that if the trolley left the line by one-sixteenth of an inch at any moment the sliding contact behind would still keep the circuit. By that means you can practically prevent any making and breaking of contact with the trolley-wires." Do you agree with that? I agree so far that it can be done; but I do not know how he means to do it.
3201. Do you believe it will be effective? I do, in regard to breaking the circuit at that point; but it does not get over the whole difficulty.
3202. With regard to the telephone, are you prepared to express an opinion on our system as compared with systems in other parts of the world? I think ours is a bad system.
3203. Why? Because everybody can hear what everybody else says for one thing.
3204. It destroys secrecy, and therefore prevents the system from being popular? Quite so.
3205. It therefore destroys its value commercially? Yes. In certain sections it is already interfered with by the tramways. Where I live I very often cannot speak through the telephone at all.
3206. How do you propose to prevent telephones from being affected by the electric trams? There is only one way in which it can be done, and that is by making what is known as a metallic return in connection with the telephone wire.
3207. There is only one way? Only one way.
3208. If this tram is made, and we desire to have an effective telephone service, that must be done? It must be done if you desire to have an effective service whether the tram is run or not.
3209. As our system grows, will the difficulties under which the earth-return system labours become more pronounced with the introduction of electric lighting? Of course. Electric lighting would influence the telephones nearly as much as the tramway—perhaps more in some places.

R. Threlfall, Esq., M.A., A.M.I.C.E.

30 April, 1896.

2310. What is the fate of earth returns, as far as you know, in all parts of the world;—are not most cities adopting the metallic return? I understand that the metallic return is being resorted to everywhere. I know of no case in which there is a large exchange in which it is not contemplated, or in which the metallic return has not been resorted to.

3211. It is being adopted everywhere people desire an efficient service? Yes.

3212. Has the adoption of this return popularised the telephone service much? I cannot say. It must increase its usefulness. It would increase the usefulness of the telephone for me if we had the metallic return, and I presume that it would do so for other people.

3213. How do the telegraphs affect the telephone? At the University, telegraph messages which have been transmitted can often be heard perfectly well, and any one able to read the Morse Alphabet could read the messages.

3214. Not only is the telephone not secret itself but it may divulge messages that have been forwarded on the telegraph line? If I could read the Morse system I could often sit at the telephone at the University and read telegraph messages all day.

3215. You say that no important city, with the exception of Berlin, tolerates the earth return system? As far as my information goes, it is a commonplace amongst electric engineers that a metallic return is sooner or later absolutely essential in all telephone systems.

3216. And it must come in Sydney? If it came in Sydney to-morrow I believe it would double or treble the usefulness of the telephones.

3217. And the number of subscribers, and therefore the profits? I presume so.

3218. Then your view is this—that it is essential that Sydney should have a metallic circuit in the interests of the telephone itself? Certainly.

3219. If the electric traction is adopted in Sydney that precipitates it? It may make it absolutely necessary—it will make it more desirable.

3220. You do not state definitely what the effect of electric traction would be on the telephones, but you say in general terms that it will affect them injuriously? I have no data on which to express a more definite opinion.

3221. Are you prepared to express an opinion upon Mr. Walker's estimate? It seems to me a very large estimate.

3222. Is there any portion of that system in regard to which you desire to express an opinion? The poles seem to be very expensive. £10 for each pole is a great deal. I had some experience as to the price of poles some years ago. I notice that £200 per mile is put down for copper wire, but that is for wire about the weight of that used for electrical lighting purposes. That is quite out of the question for telephones, and I should think it must be a mistake. The largest wire ever hung for telephones is No. 16 gauge. That is £65 to £66 per mile—not £200. It is not necessary to have it as thick as that for telephone purposes.

3223. How much is that item? The item should be reduced from £200 to £66—that is, about three to one.

3224. That is one item alone? That item ought to be about £7,000 instead of £22,000. It is about £14,000 too much. That is doubled for the metallic circuit, so that on the whole it is about £28,000 too much.

3225. You say, then, that this £44,000 ought to be about £16,000? One-third—about £15.000.

3226. You are sure about the wire? I am sure about it. It is an estimate of £7 per mile. The £44,000 can be reduced, roughly, to £15,000.

3227. About the cost of erection, you express no opinion? No; I have an opinion, but I would rather not express it.

3228. Supposing the telephone service to cost £100,000;—in your opinion what would it cost to put in the metallic circuit? I do not think it ought to cost more than half as much again. It ought to cost about £50,000 to alter it. You must get the poles; you have the instruments and half the wire.

3229. Could the old wire be used? Certainly; the wires on the circuit might require rearrangement, but it could certainly be utilised.

3230. If the Sydney system cost £100,000, in your opinion a metallic circuit would cost £50,000? I do not think it ought to cost as much. Of course work that has to be done whilst the system is in operation is always more expensive than when it is done at first.

3231. Would it be possible to keep the present system working to utilise the system which we have at present, and to convert it at the same time? Certainly; it has been done, I understand. I see no difficulty about it.

3232. Therefore the bringing in of a metallic circuit does not mean the abandoning of all the work that we have done already? Certainly not.

3233. In your opinion, would a new switchboard be necessary? Certainly it would. You might use the skeleton of the old one, but it would be required to be entirely reconstructed.

3234. Still there need be no cessation in the use of the present telephone service? No.

3235. You would use the old switchboard during the process of the alterations? I speak subject to correction, but I think that probably the best way would be to start erecting a new switchboard, and gradually to transfer from the old one to the new one; it would be most convenient to do that. As you built up the new one, take down the old one.

3236. As you introduce the metallic return service? Yes.

3237. Do you include the cost of the switchboard in the £50,000? Certainly; but I am only giving a general opinion on that point.

3238. It says in the estimate £20,000 for a complete metallic switchboard? It looks enormous, but I have not made an estimate.

3239. With regard to the estimate of £236,456 to put a metallic circuit on a system that has cost £108,000, what is your opinion? I cannot understand it. I have not made an estimate. I only give a general view of what the alterations will be in relation to the original system.

3240. You are aware that some subways are being carried out in the city for the purpose of placing telephone cables therein;—does that bind the Department to a metallic circuit? Yes, ultimately, undoubtedly.

3241. You say as an electrician that the subway binds the Department to the metallic return ultimately? Undoubtedly.

3242. You say that notwithstanding the fact that Mr. Walker says "no?" Notwithstanding anything.

3243. Will you explain why? Because you get your wires so close together that you get overhearing unless you have a metallic circuit.

3244.

R. Threlfall, Esq., M.A., A.M.I.C.E.

30 April, 1896.

3244. If you adopt the precaution of having the system of cables you can reduce the overhearing, but you cannot get entirely rid of it? You can never get rid of it until the wires are twisted together to form a complete metallic return.
3245. Immediately the cables are put in the subway, unless a metallic return is provided, the telephone service of Sydney will be materially affected? I think so. Something depends upon the length of the subway. It might not do the service much harm to go through a subway of 50 yards, but it might do a great deal of harm to go through one of a quarter of a mile.
3246. Are you aware of the operations in connection with the subway? I know that subways are being made but that is all.
3247. Wires underground placed in a tunnel must have a metallic return? That is my opinion. This so-called protected cable protects against one form of induction, which is not the only form, and in some cases not the most important form. There are two ways in which induction acts, and the protecting tinfoil only acts against one, the other being as active as ever; whether the one which is not guarded is or is not more important than the one which is guarded against depends upon the length of the circuit, the nearness of the wires, and a variety of other complicated things. Under some circumstances the so-called protection is protection, and under certain other circumstances it is not protection.
3248. Is it your opinion that Sydney must have a metallic circuit in order to obtain an efficient service, and that it will be precipitated because of the construction of the subways? Yes: that is my opinion. It is more necessary with the subway system than with the other.
3249. Have you been in Hobart lately? I was there at the beginning of last year.
3250. Did you see the electric trams there? I did.
3251. Do you regard them as satisfactory? I do not. The engines and the dynamos are good, but the permanent-way is horrible. I think they bought a lot of old rails for it; it is the worst permanent-way that I have ever seen.
3252. You think that interference with the telephones can be reduced to a minimum, but that electric traction will still have some effect upon the telephone? That is my belief.
3253. *Mr. Fegan.*] Where do you live? At Neutral Bay.
3254. *Chairman.*] What was the cause of the bad effect on the telephone? The cause of the leakage from the North Shore tramway. You could trace the progress of the car along the road just as well as if you were sitting in it.
3255. You regard the metallic return as absolutely necessary? I do. The longer you leave it the greater will be the cost of making the change. Supposing the money could be borrowed to-morrow as cheaply as you might expect to borrow it in two or three years' time it would be economical to commence work at once, because the bigger the concern gets the more expensive the operations would be in the long run.
3256. It is an intricate thing, requiring competent management? It is a matter requiring good engineering, no doubt.
3257. You regard it as an important work? Yes; I do.
3258. And one in which the State might make a heavy loss very easily? Undoubtedly, it is a delicate operation.
3259. And requires great competence? Yes; requiring a competent person.
3260. *Mr. Wright.*] Will the old wires stand twisting? If they are of good quality they ought not to have suffered much.
3261. Is there no danger of crystallisation? Iron does tend to crystallise, but it is the exception rather than the rule.
3262. In the metallic return I understand that two wires would be twisted round each other? That is in the cables, but on the poles they are arranged to cross each other at intervals.
3263. We have been informed that in consequence of the improvement in the electric tramway at North Shore the trouble in connection with the telephones has disappeared? That is not so.
3264. Was the service better prior to the construction of the electric tramway? I do not know.
3265. If the tramway were removed would it be satisfactory? You could speak through it, and you could hear what your neighbours were saying.
3266. *Chairman.*] What about pipes in the ground;—would it be affected by the electrolysis? It probably would be found necessary to take precautions as time goes on, or rather to keep a watch on the pipes. By the precautions which the Department propose to take the danger of interfering with the pipes is minimised, but still a watch should be kept on them.
3267. If the Committee recommend to Parliament the construction of this tramway, would you undertake to so perfectly construct the electrical portion of the tramway as to neutralise any interference with the telephone wires? No; I could not.
3268. Have you any knowledge of the engines at Rushcutter's Bay used in connection with the cable trams? I have never examined them.
3269. They are slow-speed long-stroke engines specially designed for cable work;—would they be suitable for electric traction? I see no reason why they should not.
3270. Do you think it would be wise to use the engines at present at Rushcutter's Bay for electric purposes? I do not know the engines. The Department ought to know all about them. The Railway Department may have some special reason for saying that those engines are unsuitable. The engines may be unsuitable in a way which I cannot imagine.
3271. Would you look into the matter and inform the Committee on the subject? Certainly.
3272. Would there be any objection to laying a feed-wire underground from Rushcutter's Bay to Redfern? No objection, except the awful expense.
3273. Would there be any objection to bringing it overhead? Not the least. If I were dictator it should go overhead. I would not dream of burying it, even if it did look a little bit ugly. You could take it along back streets. I would hang the wires. It is simply throwing good money away to bury them.
3274. Is there no danger? None.
3275. Do you think the three-wire system an important thing in itself? It effects a great saving in copper.
3276. You approve of it? Undoubtedly.
3277. Therefore it must be maintained? I think so.
3278. Do you regard the three-wire system material as to disturbances in the telephone? I do not think it would make much difference to the telephone. On the one hand you save copper, on the other you introduce a slight difficulty of regulations. I should not like to say off-hand whether it is desirable. It is a matter for a great deal of consideration. I have not had an opportunity of considering it.
3279. Have you had all the evidence? I have, but I have not had time to go through it.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

APPENDIX.

A.

[*To Evidence of H. B. Lassetter, Esq.*]

NAMES OF BUSINESS PEOPLE IN GEORGE-STREET FAVOURABLE TO THE CONSTRUCTION OF THE PROPOSED TRAMWAY.

Sir, Sydney, 1 April, 1896.

With reference to the evidence given by me before you, I beg to call your attention to Question No. 912. I found that there were not twenty-seven shops empty in King-street, but only five. Of this number, two of them are situated one on each side of the door of the Opera House, which has been closed for some considerable time past. These shops were used as a refreshment shop and an oyster saloon, and would be patronised by those frequenting the theatre, consequently would not be reoccupied until the theatre opens again, as there would be little or no trade for them. The third shop is one at the corner of Kent and King Streets, formerly occupied by Hales & Cole, wholesale tea merchants, whose trade would not be affected by the cable tram. The fourth shop is one of a block of buildings put up by Mr. Solomons since the tram was started, No. 62. The fifth shop is No. 70, formerly occupied by the Austral Cycle Company, who have now moved to more commodious premises in George-street. They could not have been very much against the tramway down the centre of the street—narrow as is King-street—as they have now signed the petition in favour of an electric tramway along George-street from the Railway to Circular Quay. The only other shop vacant in King-street is one on the east side of George-street, this is No. 165, and was occupied as a small oyster saloon. I think you will agree with me that the inhabitants of King-street are showing they do not greatly disapprove of the tram, and I notice that now the wood pavements are being taken up in Pitt-street more 'buses travel through that thoroughfare than hitherto. I contend that a tramway controls the traffic and makes the various vehicles keep to their proper side of the road.

With regard to the petition mentioned by me in my answer to Question 819, I mentioned that the circular was only sent out at ten minutes to one o'clock, when most of the business people were at luncheon. I enclose herewith a petition containing a few more names, some of which are included in the previous one handed in by me. I would call your attention to the fact that business people having premises in the narrower part of George-street, Messrs. Perdriau & Co., Peate & Harcourt, Atcherley & Dawson, Holdsworth, Macpherson & Co., T. F. Wiesener, London Bank of Australia, Nicholson & Co., &c., have all signed it.

In my evidence I omitted to mention instances where tramways were conducted along streets narrower than George-street, and where the traffic varies from five to ten times as much, viz. :—

Borough Road, four lines of trams, commencing on the south side of London Bridge and proceeding to Woolwich, Peckham, Greenwich, and other suburbs.

Three lines of tramways converging on Westminster Bridge, one line going to Camberwell, one to Greenwich, and one to Brixton.

Double line of trams converging from Moorgate-street, Islington, and Camden Road.

I have, &c.,

The Chairman, Public Works Committee. H. B. LASSETTER.

---

27 March, 1896.

WE, the undersigned ratepayers, having business premises in George-street, are in favour of an electric tramway being laid from the Railway Station to the Circular Quay, *via* George-street.

F. C. Passau.
Charlemont & Co.
Gowing Bros.
Adams Café, *per* W.J.A.
J. Turner Robinson & Co.
W. J. Deane.
Thomas Dowling.
J. and W. Gelding.
W. Wylie.
E. Tayler.
"My Opticians," Osborn and Jerdan.
Murton & Co., *per* E. R. Galpin.
John S. Abraham.
M. A. Momsen.
Griffiths Bros.
S. F. Turner.
Fairbanks, Lavender, and Son.
Hanaford, Greatrex, and Bro.
F. Lassetter & Co. (Limited.)
M'Lean Bros. and Rigg (Ltd.), *per* H. W. Wood.
B. Bebarfald & Co., *per* S.B.
James Harris.
Williams, Griffiths, & Co.
Edward C. Cree.
William Kerr.
W. H. Varcoe.
H. Huet.
C. Davis & Co., *per* M. Levy.
Bushell & Co., *per* A. W. Bushell.
Priora Bros.
T. Hobson, *pro* A.B.
Angus & Coote.
John Dorrian.
Mark Nathan.
G. Sabiel.
M. Krafft.
Will Fitwell, *per* A.J.C.
The Falk Studio, *per* G.E.G.
Scholefield & Martin.
S. Bennett & Co.
D. Bernard & Co.
C. F. Priddy & Co.
A. W. Twine & Co.
Fredk. Gurner.
T. L. Smith.
E. Yedwoph, *per* J. Ellis.
J. W. Small & Co.
Baker & Rouse, photo. stock importers, 376, George-street, Sydney, *per* John O'Connor.
John Corbett, 381, George-street.
W. H. Simpson and Son, 385, George-st.
Austral Cycle Agency, *per* J. F. Hambly
Bennett and Wood.
R. O'Donnell.
Cowles and Dunn.
Eastway Brothers.
Bosch, Barthel, & Co.
W. T. Waters & Co., George and King Sts.
John M'Dowell, 388, George-street.
C. Whiddon, 386, George-street.
Chisholm & Co., 380, George-street.
John Sands, 374, George-street.
Chas. Collins, 374, George-street.
T. A. Dibbs, General Manager, The Commercial Banking Company of Sydney (Limited).
A. G. Stewart, Acting General Manager The A.J.S. Bank (Limited).
Fletcher Dixon, Manager E.S. & A. Bank (Limited).
Nicholson & Co., 348, George-street, *per* Nelson Booth.
T. F. Wiesener, 334, George-street.
J. Hubert Newman, 304, George-street
G. H. Smith, 302, George-street,
Perdriau & Co., 270, George-street.
For The London Bank of Australia, W. T. Smellie, manager.
Holdsworth, Macpherson, & Co., *per* Wm. Macpherson.
Peate and Harcourt, 255, George-street, *per* H. Dance.
Atcherley & Dawson, 257, George-street.
Alfred Thorne & Son, 280, George-street, *per* Chas. J. Baker.
S. W. D'Arcy-Irvine, Equitable Life Assurance Society.
Flavelle and Roberts (Ltd.), 340, George-street.
City Buffet, George-street, E. D. Tollemache.
H. Hely & Co.
For the India Rubber, Gutta Percha, and Telegraph Works Co. (Limited), C. H. Peddar, *pro* manager.
For J. F. Holle & Co. (Limited), 285, George-street, A. W. Walker, secretary.
Peapes & Company, 311, George-street.
Lobb, Hambly, & Co., 301, George-street.
B. Gooch, 295, George-street.
Philip Lawrence, 289, George-street.
Greenfield and Barraclough, 371, George-street.

B.

[To Evidence of P. B. Walker, Esq., M.I.C.E., M.I.E.E.]

DETAILS OF COST OF INTRODUCING A METALLIC TELEPHONE SYSTEM IN THE CITY AND SUBURBS.

IN the city and suburbs there are at present 3,150 miles 45 chains of telephone wires, consisting of 215 miles of poles, or 6,450 poles altogether.

These poles are carrying 130 wires, besides cables containing 20, 25, and 50 wires, and the poles are so overloaded throughout the city, rendering it dangerous to place many more wires upon them, so that any additional work in connection with them now is of a risky as well as dangerous character, and it was this that necessitated the adoption of a subway system, but not for the express purpose of introducing a metallic telephone system.

My estimate of £250,000 is made up as follows :—

12,900 poles, averaging 40 feet in height, but many would be 46 and 50 feet, averaging, at £10 each	£129,000
3,150 miles of wire, including labour, erection, &c.	79,600
Additional wiring required to provide for metallic circuits 100 miles 25 pairs cable for repairs, emergencies, &c.	15,000
50 tons hard drawn copper wire, at £70 per ton	3,500
Unforeseen expenses	5,000
Complete metallic multiple switchboard for 3,500 numbers	20,000
Total	£252,100

During the month of March 51 miles 12 chains were added to the telephonic system of the city, and we have on hand now sufficient applications (60) which will cover nearly a hundred additional miles of wire when constructed ; and upon the reduced rates coming into operation on the 1st May it is impossible to estimate what further extensions may be required, therefore the Committee will see that the telephone system is rapidly growing into a gigantic undertaking which requires the most careful handling in order to protect the public interest.

It is asserted by Mr. Deane that the alterations can be made for a metallic circuit for £50,000. This I entirely disagree with, because in the first place it will cost £20,000 for a multiple metallic switchboard, and if Mr. Deane can provide for the whole of the telephone, city and suburbs, now extant for the balance (30,000) of his estimate, all I can say is that he would accomplish a feat unparallelled in the history of engineering.

Of course I can quite understand Mr. Deane's statement from his point of view ; he wishes, if possible, to have the electric tramway, and I should be very glad to see the tramway myself, but I am compelled as a matter of duty to point out what I consider is necessary for the protection of the telephone system.

It has been stated to the Committee that underground telephone systems do not work with overhead systems ; this is misleading, because in New York there are upwards of 20,000 miles of underground telephone cables, and about 100,000 miles of overhead telephone wires, so that this may be taken for what it is worth. The number of telephone connections between subscribers and exchanges in America on 1st January, 1893, was 600,000,000 ; and this has been stated by Mr. Preece in his report of trip to America.

P. B. WALKER,
16/4/96.

C.

[To Evidence of H. Deane, Esq.]

REMARKS ON MR. P. B. WALKER'S STATEMENT RESPECTING THE PROPOSED TRAMWAY.

Sir, 22 April, 1896.

I have the honor to inform you that I have conferred with Mr. Elwell on this subject, and the following are the conclusions arrived at, which I desire to place before the Public Works Committee.

I have, &c.,

The Secretary, Parliamentary Standing Committee on Public Works. H. DEANE.

Causes of Disturbance on the Telephone Lines by the Electric Tramway on the Military Road, and reasons why similar effects would not be produced by the operation of the proposed George and Harris Streets Line.

1. Continuous Current.—It is well-known that a continuous constant current, no matter of what quantity or pressure, passing through a conductor in the nearest proximity to a telephone line, has absolutely no inductive effect upon the latter, and cannot in any way affect the working of the telephone system.

An alternating current on the other hand, *i.e.*, a current reversing in direction many times per second, such as is used in the lighting of the Borough of Redfern, has the greatest inductive effect upon telephone lines running parallel with it ; but this may be neutralised by the lead and return wires of either system being placed equidistant from the line of the other system.

All electric tramways at the present time are worked by continuous currents.

2. Variations in the current on electric tramway wires cause inductive effects upon telephone lines running parallel with them in proportion to the intensity of the variations.

In the same way, similar variations in the return currents through the rails, or other conductor in contact with the earth, cause interference with the earth return of telephone wires in proportion to the quantity of current which is diverted from the tramway return conductor, and spreads over the earth owing to the resistance of the said conductor.

3. On the Military Road line there are several imperfections which contribute to cause induction on the telephone line running parallel with them, principally as follows :—

(*a*) The current from the generator is not absolutely continuous owing to its comparatively small size, and the fact of only one machine running. Two machines running in parallel tend to neutralise the inequalities of each other.

(*b*) There being normally only one car taking current at one time, the greatest inductive effect is created owing to the whole of the current in the line being started or stopped with every make or break of contact in the car. The greater the number of cars taking current at one time, the less would be the inductive effect from this cause.

(*c*) The sharp angles of the trolly-wire on the Military Road cause momentary breaks of contact, and the inductive effect of this is aggravated by the fact of so few cars taking current at the same time.

(*d*) The return conductor on the Military Road is imperfect, although better than was considered necessary three years ago, and this conduces towards disturbance of other and weaker earth currents.

(*e*) The rails on the Military Road are generally dry and very sandy, causing great variation in resistance between themselves and the car-wheels, and consequently, variation in the tramway current, aggravated again by so few cars taking current at one time. On lines of frequent service the rails preserve a much more favourable condition.

4. All the above-mentioned causes of disturbance would be eliminated in the case of the proposed George and Harris Streets lines owing to the following altered conditions :—

(*a*) The generators would be of large size, and it is intended to work two together normally.

(*b*) Twenty or more cars will be taking current at one time, so reducing the inductive effect in proportion caused by the turning on or off of the current on any one car.

(*c*) The overhead line will be of a greatly improved section suspended in such a manner that no irregularities can exist to produce variation in the contact with the trolly or collector on the cars.

(*d*) The return conductor will be of the most perfect character known, the joints of the rails presenting no higher resistance to the passage of the current than the body of the rail. This has only yet been achieved on a very few systems.

(*e*) The rails will be kept in the best condition for electrical contact with the car-wheels by the frequency of the service.

5. In addition to the above altered conditions, the proposed tramway will be operated in sections in such a manner that any inductive action on one section will tend to neutralise any that may be caused by an adjoining section.

Note.—In weighing the statements of Lord Kelvin, Sir Frederick Bramwell, and others, given in evidence by Mr. Walker, it must be borne in mind that (*a*) they were made three years ago, when electric traction was in a comparatively crude condition, (*b*) that they were largely the statements of expert witnesses retained by the National Telephone Company to push their interests, and, consequently, although the actual letter of their evidence may be absolutely correct, the spirit of it is strained as much as possible in their client's interests.

Mr. Elwell has no doubt but that the statement made in his letter of the 15th instant to the Chairman of the Committee would be endorsed by the highest authorities at the present time.

The present telephonic system is not satisfactory, as frequent interruptions and interferences occur.

No large system can be permanently satisfactory without metallic returns, and the absence of these is a block to the introduction of long-distance telephones.

Any extensive introduction of electric light on the alternative current principle will seriously interfere with the telephones when the earth is used for the return current. The Railway Commissioners have found their own telephones much affected at Redfern, and have had a good deal of expense through this cause.

If any improvement is to be made by adopting metallic returns it should be done at once, as, should it be deferred, the expense of alteration will be more than proportionally increased as the number of contributors increases.

A Joint Committee of the Houses of Lords and Commons, in 1893, decided that Electric Traction Companies should be expected to conform to the rules of the Board of Trade; but that this done, they had no further responsibility.

At a telegraph and telephone conference held in Melbourne eighteen months ago, on which Mr. Walker sat, it was decided that Electric Traction Companies should not be expected to provide insulated returns, and that some of the regulations of the Board of Trade should be relaxed.

With regard to cost, it is evident, I think, that Mr. Walker's estimate is excessive. The money expended on the present system, up to date, is, according to Mr. Walker, £92,000. Were telephones only now being introduced, the work could be carried out for a much smaller sum, as instruments and materials are cheaper, and there are no heavy royalties to pay. It is probable that a sum of £60,000 would cover the cost.

I do not see why the alterations required for metallic circuiting overhead should not be done for £50,000. Most of the poles will carry the additional wire.

The introduction of underground wires laid in subways with metallic circuit has already been contemplated, and the construction of subways has been commenced, and orders given for cables.

It may be said that the expenditure on a system with metallic returns is precipitated by the construction of the tramway; although from the above consideration it is clear, I think, that it is not so. Assuming the time to be five years, interest only could be charged to electric traction, and that to the whole system. That is to say,—£50,000 at 4 % for five years, £10,000 :—

George-street Tramway (capital cost), say	£130,000
Others, when converted to electricity	£370,000
	£500,000

The interest, £10,000, amounts to 2% on £500,000. The proportion for the George-street tramway is £2,600.

All the work necessary could be done before the completion of the tramway; in fact the complete conversion of the telephone system could be carried out before this time.

H. DEANE,
Engineer-in-Chief for Railway Construction,
22/4/96.

C1.

NEW SOUTH WALES GOVERNMENT TRAMWAYS.

TABLE showing widths between kerbs at intersections of all streets crossing George-street and Harris-street.

Name of Street.	Width between kerbs, North side, in feet.	Width between kerbs, South side, in feet.	Name of Street.	Width between kerbs, North side, in feet.	Width between kerbs, South side, in feet.
Essex-street	36	39	Campbell-street	115	74
Queen's-place	41	41	Hay-street	75	77
Charlotte-place	41	45	Engine-street	78	74
Bridge-street	47	46	Gipps-street	75	75
Jamieson-street	45	45	Harris and Regent Streets	80	65
Margaret-street	45	45	Thomas-street	50	49
Hunter-street	45	45	Mary Ann-street	49	49
Wynyard-street	45	45	Macarthur-street	49	50
Martin-place	45	45	William Henry-street	50	49
Barrack-street	45	45	Quarry-street	50	50
King-street	45	48	Fig-street	49	48
Market-street	48	60	Allen-street	49	48
Druitt-street	53	.....	Gipps-street	48	48
Park-street	.....	75	Pyrmont Bridge-road	49	48
Bathurst-street	81	75	Miller-street	48	.....
Liverpool-street	60	61	Union-street	.....	49
Goulburn-street	70	70	John-street	50	48

D.

[*To Evidence of P. B. Elwell, Esq.*]

NOTES ON EVIDENCE GIVEN BY CERTAIN WITNESSES IN THE INQUIRY RESPECTING THE PROPOSED TRAMWAY.

ON perusing Mr. P. B. Walker's evidence I am struck with a remarkable contrast between the statement of Mr. W. E. L. Gaine, general manager of the National Telephone Company, before the Parliamentary Committee in 1893, and the same gentleman's statement made at the National Company's Staff dinner on the 13th March last, the great experts of the day being present.

I take the following extracts for comparison :—

June, 1893—Arguing that cost of conversion to metallic circuit was prohibitive :—"The great bulk of the switchboards of the country were single boards; it meant the taking out of those—an enormous work, and the re-erecting of the entire system, and he had no hesitation in saying that if the Leeds tramway were planted in the city of Liverpool to-morrow, Liverpool would be deprived of the telephone for at least five or six years. He would not undertake to reduplicate the wires and rearrange the system under that time. Asked—'You have said nothing of the enormous cost; those switchboards are very expensive, are they not'? A switchboard for an exchange the size of the Liverpool Exchange would not be less than £20,000. That, of course, did not take into account the cost of way-leaves and ordinary repairs and maintenance. The Leeds tramway ran through one of the outskirts of Leeds, and it disturbed, comparatively speaking, only a few lines—twenty-six lines. Although they had only twenty-six lines disturbed in Leeds, the cost of putting them on to a small extra exchange was between £600 and £700. If this was carried out to its logical conclusion, and assuming that the traction were to be universal all over the country, he estimated that it would cost the company not very far from £2,000,000."

This refers solely to the cost of metallic circuits for about 80,000 subscribers.

March,

March, 1896—Speaking of improvements —"He desired to say that, in all the great towns of the kingdom, if the local authorities were prepared to give the company reasonable and adequate facilities (this refers to way leaves), the company on its part was prepared to place the whole service on the metallic circuit principle." (See *The Electrician*, March 20th, 1896.)

Where does the £2,000,000 for metallic circuit come in here? The total capital of the company, including purchase of patents, buying out competing companies, &c., only amounts to £1,734,000 and there is no talk of increasing it in the Company's annual report. The only city in which they appear to have done much so far in metallic circuits is London where there are no electric trams.

This points to two conclusions; first, that Mr. Gaine's statement of 1893 was enormously exaggerated; secondly, that no special regard is paid to those towns where there are electric tramways as far as metallic circuiting is concerned.

The Electrician, January 10th, 1896.—An important communication by Dr. du Riche Preller appears in this periodical on "Electric Tramways and Telephonic Disturbances." This article was shown to me just before I gave my evidence before the Committee last Friday, and I had not time to carefully examine it. *The Electrician* is the chief technical authority in electricity, and although I subscribe personally to it, the number in question has not reached me.

Dr. Preller gives some very interesting information, but if he had examined also into the best American tramway systems he would have seen that the trolly contact formed only one item in the requirements of a perfect electric tramway. Nevertheless Dr. Preller's article tends to confirm my statement that disturbances of telephones by electric tramways may be neutralised without introducing metallic circuits.

Mr. Webb's evidence.

The same remarks which I have already made upon Mr. Callender's evidence apply to that of Mr. Webb, namely, that if he had first made himself acquainted with the electrical details of the proposed scheme, his opinion would have been of more value as regards the effect of the tramway currents upon telephones.

Mr. Raw's Evidence.

I do not wish to criticise this unless the Committee places reliance upon Mr. Raw's statements as those of an electrical expert, in which case they might prove seriously misleading.

Telephone Systems in Bristol, Birmingham, Coventry, and other Towns where Electric Tramways exist.

I have searched the technical periodicals and made verbal inquiries without obtaining definite information as to whether the telephone systems of any of these towns have been converted to a metallic circuit. If it had been so, it is certain that the fact would be mentioned, and we can only infer that the old system of earth circuits is still in force in these towns and in all others where the National Telephone Company owns the system—especially in view of the extract above quoted from the general manager's speech of the 13th March last. Electric tramway troubles are not even referred to, either on that occasion or in the company's annual report.

Underground Telephone Cables and necessity for Metallic Circuits.

The following extracts from the evidence given by Mr. W. H. Preece, C.B, F.R.S., Electrician and Engineer-in-Chief of the Telegraph Department, and author of some of the best works on the subject of telephones, before the Parliamentary Committee on the Telephone Service, will, perhaps, throw a better light upon the present question than anything yet laid before this Committee They are taken from *The Electrician* of May 10th, 1895, not a year ago —

"The transmitter had passed through several stages of improvements, and had not yet approached perfection, for every day they were receiving suggestions for improvements. Those instruments were connected together with two wires, forming a metallic circuit, which wires were best twisted about each other. The use of one wire only made a defective system, led to innumerable troubles, caused imperfect speaking, and in fact was the principal cause of the great unpopularity of the telephone. In the Post-office they had always used the metallic circuit by means of the twin-wire system, but the introducers of the telephone system in England and America, for the sake of economy, used the single wire. The twin-wire system was being introduced rapidly into England; it was almost general in the United States, and over the Continent very largely.'

"Replying to the Chairman as to the comparative merits of underground and overhead wires, he said there was an advantage in having trunk wires overhead, and there was no disadvantage in having local wires underground. The reason was that an underground wire, like a cable, retarded the electric current; just like iron, it absorbed those minute electrical waves which enabled them to distinguish between one voice and another, and, in fact, it checked the speed of the current. It was not unlike speaking through a long speaking-tube when the voice became blurred at the entrance. Where they had the wires underground it spoiled the articulation and the individual identification. That was due to an electrical quality which might be called the capacity of the wire for retaining its discharge. They could measure the capacity of every wire, and knew how to reduce it, but they could not remove it altogether.

"The coating of the wires with paper had certainly good effects, and when applied to cables with a great number of wires it brought the price of the underground work so low that the difference between the underground work and the overhead virtually disappeared. It reduced the price per mile per circuit for a double circuit of line of pipes filled with conductors to £18, as against £15 or £16 overhead, but it was only when they carried a great number of wires that there was great economy. It really came to this · that while it was impossible to put underground wires where they had only six or eight or ten wires, owing to the price, when they came to 100 or 200 wires it was cheaper to go underground than over ground "

This clearly shows the necessity for metallic circuits in all large telephone systems, and that no one possessing any knowledge of the subject would go to the expense of laying cables underground without intending to adopt the metallic circuit. It would be making matters worse instead of better.

P. B. ELWELL,
28/4/96.

The Secretary, Parliamentary Standing Committee on Public Works.

D 1.

DISTURBANCE TO TELEPHONES BY ELECTRIC TRAMWAY CURRENTS.

Sir, New South Wales Government Railways, 4 May, 1896.

When last before the Committee I was asked if I could quote any authority in support of my assertion that it would be practicable to reduce the disturbing influences of the tramway currents upon the telephones to such an extent that the latter would not be materially affected in spite of the existing earth returns.

By the last mail from London I have the *Electrician*, of March 27th, containing an article on the subject by Dr. V. Wietlisbach, Director and Chief Engineer of the Swiss Telegraph Department.

Considering that the telephone system alone includes 37,500 miles of wire over the whole of Switzerland, and that electric power transmissions, tramways, and lighting installations are probably thicker in that country than in any other, Dr. Wietlisbach may be taken as a very high authority on this special subject; in fact, I know of no one in a better position to give an opinion.

After dwelling upon the various disturbing influences and their remedies, which are very fully considered, Dr. Wietlisbach, referring to the trolley or slide, goes on to say that "in some quarters great weight is further attached to the lubrication of the contact surface Be that as it may, the fact is attested and confirmed that some electric tramways produce in telephone lines only slight or moderate disturbances, which can easily be obviated or neutralised, whilst other electric tramways cause telephonic disturbances of so marked or violent a character that mere crossings of telephone lines having metallic returns and possessing a somewhat high capacity suffice to render telephonic communication extremely difficult. In such cases the only remedy is to bury the telephone lines which are in proximity to the tramway under ground. Having regard to the considerable expenditure which the laying of such cables involves, it would certainly be worth while to further investigate the causes of these telephonic disturbances which may presumably be obviated by very simple means.

As

As regards cost of construction, electric tramways which do not cause telephonic disturbances are in no way more complicated or more costly than tramways which do produce the noises referred to. It is even reasonable to presume that the wear and the cost of maintenance are less in the former than in the latter case."

I could not have desired a more complete support than the above of the conclusions I had already formed, after inspecting the principal electric tramway systems of the world; viz., that the more perfect the tramway construction the less is the disturbing effect on telephones with earth return, and that the tramway which causes practically no disturbance is also the most economical to work, quite apart from telephonic considerations.

I have, &c.,
P. B. ELWELL,
Electrical Engineer.

The Chairman, Parliamentary Standing Committee on Public Works.

E.

[To Evidence of R. Threlfall, Esq., M.A., A.M.I.C.E.]

SUITABLENESS OF ENGINES AT RUSHCUTTERS' BAY TRAM WORKS FOR GENERATING POWER FOR THE PROPOSED ELECTRIC TRAMWAY.

Hollowforth, Neutral Bay, April 30, 1896.

Dear Sir,

I was, as you know, commissioned this afternoon to examine the engines at the Rushcutters' Bay Tram Works, with a view to expressing an opinion as to their suitability for the generation of electric power for the proposed George-street tram-line.

After an interview with Mr. Deane, and with Mr. Elwell, I visited the works in company with the latter, and now beg leave to report as follows:—

(1.) The engines are well fitted to drive specially designed electric generators of a type now on the market, and the necessary alterations can be made at small cost.

(2.) I understand that both Mr. Deane and Mr. Elwell concur in this opinion, but they recommend the installation of new compound engine and dynamo sets worked from the existing boilers (which may be easily increased if necessary) in the first instance. Their reasons are before the Committee and I need not further allude to them.

I have, &c.,
RICHARD THRELFALL.

The Secretary, Parliamentary Standing Committee on Public Works.

[Three Plans.

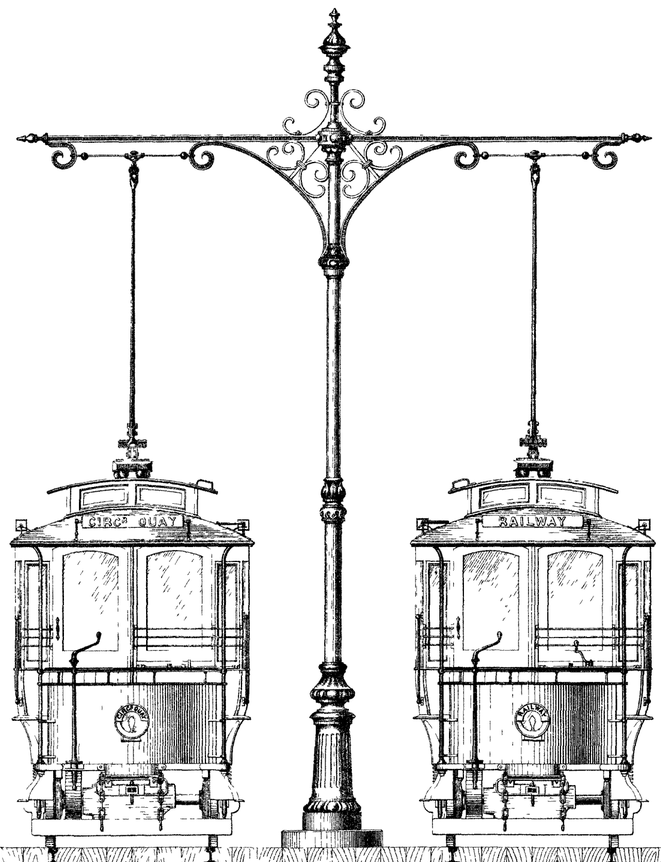
Sydney: Charles Potter, Government Printer.—1896

N.S.W.G.T.

Diagram shewing clearance between kerb and nearest rail in narrowest part of George St. between Bridge and King Streets.
— Centre Pole overhead construction. —

SCALE OF FEET

J.W.N. 16.7.96



13' 0" — 12' 0" — 13' 0"

43' 0"

This plan contains the same information as the rough wall diagram marked N°3 for which it is to be substituted

(Sig 48.)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY NEW SOUTH WALES

— N.S.W.G.T. —

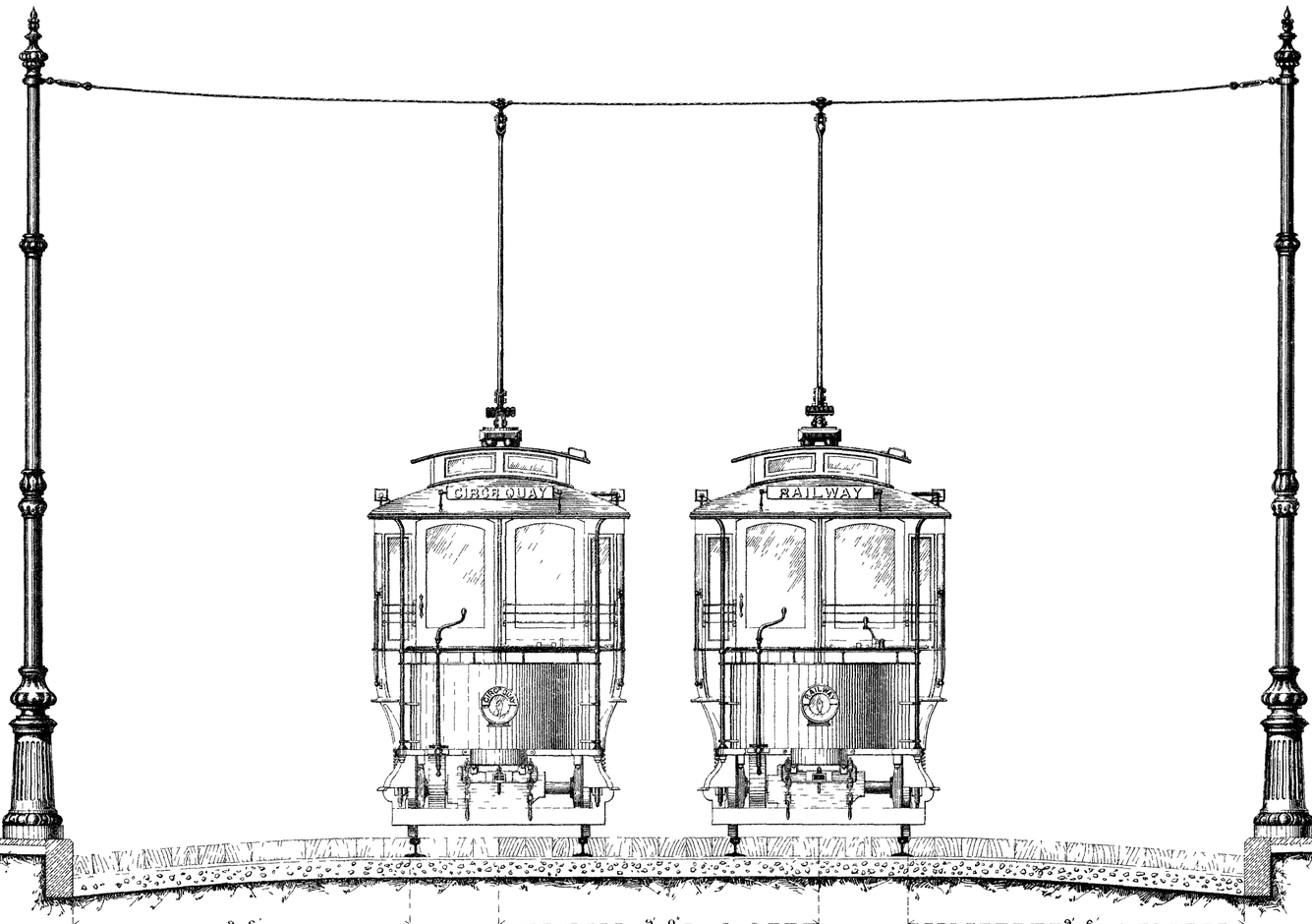
Diagram shewing clearance between kerb and nearest rail in narrowest part of George St North

— Span Wire overhead construction —

SCALE OF FEET

0 2 4 6 8

J.W.H. 16.7.96



This plan contains the same information as the rough wall diagram marked N°2 for which it is to be substituted.

(Sig 48)

H Deane

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE
SYDNEY NEW SOUTH WALES

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

ELECTRIC TRAMWAY FROM CIRCULAR QUAY TO REDFERN RAILWAY STATION.

(PETITION FROM CERTAIN RESIDENTS OF THE CITY OF SYDNEY AND SURROUNDING BOROUGHS AGAINST.)

Received by the Legislative Assembly, 12 *August*, 1896.

To the Honorable the Speaker and Honorable Members of the Legislative Assembly of New South Wales.

The Petition of the undersigned Residents of the City of Sydney and surrounding Boroughs,—

RESPECTFULLY SHOWETH:—

1. That a proposal to construct a double line of tramway through George-street, the great artery of the traffic of Sydney, is fraught with danger to the progress of the city, inasmuch as it is mainly, your Petitioners believe, put forward to delay, and, if possible, to prevent the completion of the Railway system of the Colony, by the construction of the line from Redfern to the deep waters of Port Jackson.

2. That the enormous traffic in George-street will be further congested by the construction of the proposed tram-line, as it can in no way relieve the pressure of traffic, as the dwellers beyond Redfern will still have to make two journeys each way to reach the city from their homes and their homes from the city.

3. That the carriage of wool, hides, and tallow, as well as merchandise and heavy machinery, through the streets, which tends most to the congestion of the passenger traffic, should first be removed, and that can only be accomplished by a properly devised Railway system.

4. That the Redfern Railway Station is already connected with the north part and centre of the city by steam trams, and other means of conveyance for passengers are amply sufficient. Moreover, there is no need for the present, at least, for the construction of a tram-line in Harris-street.

5. That the width of George-street for the most part is so restricted that the space to be occupied by the proposed tram-lines will prove a serious interference with traffic, and will consequently be disastrous to the tradespeople and property-holders in that street, by diverting the present great traffic into other avenues.

6. That the use of electricity by the overhead wire system is one upon which electrical engineers are by no means in accord, except that in the conveying of an immense, and little understood, electric force through densely populated streets, through their centres or on brackets on their sides, is dangerous and unsightly.

Your Petitioners, therefore, pray that your Honorable House will reject the proposal, in favour of the construction, in the near future, of the line of railway from Redfern to the deep waters of Port Jackson.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow* 13,130 *signatures.*]

[3*d.*] 335—

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

EXPENDITURE ON THE ROADS OF THE COLONY.

(RETURN RESPECTING.)

Printed under No. 19 *Report from Printing Committee*, 24 *September*, 1896.

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 3rd September, 1896, That there be laid upon the Table of this House a Return showing,—

"(1.) The detailed amounts of special appropriations for the months of "July and August, 1896, for expenditure on the roads of the Colony.

"(2.) The total amount expended on the roads of the Colony for the "months of July and August, 1896.

"(3.) The moneys for the two months named expended upon the roads of "the Colony from appropriations for the year 1896-7."

(Mr. Lyne.)

Department of Public Works, Account Branch, 19 September, 1896.

RETURN showing Special Appropriations and Expenditure on the Roads of the Colony during the months of July and August, 1896, in pursuance with Mr. Lyne's motion of the 3rd instant.

		£ s. d.	£ s. d.	
*1.	A	5,362 7 7		
	B	30,725 7 10		
			36,087 15 5.	Special Appropriations. [*See* attached details.]
2.	Expenditure, July and August, on Roads ...		96,537 14 6	
3.	Expenditure on No. 1...		16,489 17 1	

* In addition to the above, and the ordinary Roads Maintenance, the Municipal Councils have been advised to proceed with expenditure to the extent of about 50 per cent. of the Annual Road Grants on Main Roads, and the Local Road Superintendents have been authorised to invite tenders for Road Contracts for 10 per cent. of their votes on last year's basis.

THOMAS R. STEEL,
Under Secretary and Commissioner for Roads. Accountant, Public Works.

420—. Department

[605 copies—Approximate Cost of Printing (labour and material), £5 3s. 9d.]

A.

Department of Public Works, Account Branch, 17 September, 1896.

RETURN showing the detailed amounts of Special Appropriations from the 1896–7 Unclassified Road Vote for the months of July and August.

Name of Road or Work	Amount of Appropriation £ s. d.	Name of Road or Work.	Amount of Appropriation £ s. d.
Approach Road to Parkes to Condobolin Railway .	343 0 0	Approaches to Clarenza Wharf, on road South Grafton, Ulmarra Road to Water Reserve 145	37 10 0
Approach Road to Parkes to Condobolin Railway	187 0 0	Kincumber to Little Beach	57 8 0
Corowa to Careen, &c , at Momalong	200 0 0	Walli to Woodstock	117 10 0
Orange and Cargo Road to Kite's Swamp and Amaroo Railway Station	100 0 0	Culvert, Whisky Creek, Bourke to Culgoa Road	70 0 0
Thornford Public School to Road Run of Water to Winderradeen	50 0 0	Bomaderry Railway Station to Nowra Bridge .	55 9 0
Bega towards Nimitybelle at Bembooka to Sam's Corner	150 0 0	Tocal to Paterson	16 15 1
Bega to Bermagui—Baragoot Lake Crossing	200 0 0	Road from Moss Vale-Barrengarry Road to Red Hill	15 0 0
Road from O'Connell to Oberon to Road Oberon to Swatchfield (Mayfield Road)	60 0 0	Gilgandra, *via* Bidden, towards Tinderbine	50 0 0
Swan Creek to Clarenza	50 0 0	Bungendore to Gundaroo Road to Bywong	19 10 0
Murwillumbah, Possum Shoot Road, to Caden's Deviation at Burringbar	95 0 0	Miller's Forest Drainage	67 10 0
Approach to School of Arts, Clarencetown	2 0 0	Ballina to Byron Bay Road, *via* Tintenbar to Cemetery and Bourne's portion	40 0 0
Sergeant's Point to Clyde Road at Mongarlowe to Buddawang	10 0 0	Main North Road at Branxton to Railway Station .	64 15 0
Bendemeer to Hall's Creek	50 0 0	Wilcannia to Wentworth	40 0 0
Newrybar to Bangalow	200 0 0	Approaches to Hampden Bridge, Wagga	130 0 0
Manilla to Hall's Creek	15 0 0	Queanbeyan to Gudgenby near Tharwa, *via* Smith's to Michelago .	55 0 0
Gunnedah to Burburgate	8 0 0	Teralba to Cockle Creek	60 0 0
Gunnedah towards Wondobah	20 0 0	Lane Cove Road towards Gordon Estate (Treat's Road) .	43 0 0
Frogmore to Rugby, *via* Racecourse	4 0 0	Bombala, Nimitybelle Road to Bombala Common	25 0 0
Cumnock to Eurimbula	30 0 0	Footway in approach to Railway Bridge, Bullock Island	10 0 0
Wardell to Rous Road at Portion 168 to Portion 196 .	25 0 0	Myers street, Wilcannia	155 0 0
Boxtree Road to Sandy Creek	30 0 0	Bilumbil Creek to Cowan's	90 0 0
Approaches, Blaxland's Creek Crossing, on road to Coutt's Crossing to Tothill	22 0 0	Road through Burke's Grant in approach to Buchanan's Bridge	235 0 0
Ludkie's, *via* Pee Dee, to Main-Armidale Road ..	25 0 0	Shelbrooke Electorate Roads	500 0 0
Dubbo to Burroway	22 10 0	Culvert on Railway Line at Morpeth	30 0 0
Coolamon across Kindra Reserve towards Berry Jerry	117 0 0	Park Road	100 0 0
Jerilderie to Clear Hills	67 15 0	Penrith to Blacktown Road	185 4 0
Deniliquin Municipal Boundary to Wandook	24 0 0	Russart street, Lyndhurst	8 0 0
Cudgegong to Wollar	8 0 0	Singleton to Brandy Creek	20 0 0
Bevendale to Narrawa	18 0 0	Approach to Victoria Bridge, Wallis Creek	12 10 0
Mulbring to Ellalong	25 0 0	Roads leading to Jerilderie to Berrigan Railway	300 0 0
Galong to Marengo	65 0 0	Grong Grong to Wagga, Narandera Road..	7 10 0
Henty to Pleasant Hills	70 0 0		
Embankment in approach to Tocumwal Bridge	264 0 0	Total	5,362 7 7
Cannonbar to Pine Ridge—Culvert at Middle Creek	187 11 6		

B.

BALANCES on Appropriations from 1895–6, Unclassified Road Vote brought forward, to meet existing liabilities and to carry out urgent works

Name of Road or Work	Amount of Balance £ s d	Name of Road or Work	Amount of Balance. £ s d
Bendemeer to Hall's Creek	95 4 9	Ginkin to Edith repairing culverts	20 8 0
Barrengarry to Nowra Road	100 0 0	Dubbo to Peak Hill, between 39 and 40 M P	298 0 0
Sewer Road, Botany	503 8 5	Main West Road, 1¼ mile west of Ponto to Geurie	125 0 0
Tumut to Gundagai "marked tree line"	322 15 9	Murrumbidgerie to Dubbo	81 0 0
Approaches Campbell's River Bridge—O'Connell to South Apsley	192 17 4	Main South Coast Road (Berry Municipality)	159 3 0
Leycester Creek Bridge to Campbell's	40 0 0	Wentworth Falls to Burragorang	459 17 4
Stoney Creek to Murray's Flat	47 11 0	Blackheath to Megalong	178 18 9
Narrari street, Bermagui	10 0 0	Approach to Spit Ferry, Middle Harbour—Fencing	87 0 0
Walla Walla to Henty "Doodle Cooma	15 0 0	Gosford to the Blood Tree, to Narara Station	25 0 0
Telegraph Point to Hacks	10 0 0	Howlong to Goombargana	100 0 0
Grogan, *via* Dingi Dingi to Stockimbingal	32 0 0	Trangie to Collie	375 0 0
Road from Alumny Bridge at Leonard's to Road, Grafton, &c , to Broadwater	13 0 0	Burns' Bay Road	106 17 5
Gibb's to Coggin's (Old Pejar Road)	50 0 0	Nyngan to Buddabadah	80 0 0
Mangleson's Cutting on road Sandy Flat Platform across Main Range	33 0 0	Geddes street, Warialda	18 18 3
Clunes to Gibson's	26 18 7	Wauchope to Beechwood, ford at Cameron's Falls	84 0 0
Corndale to Clunes	58 10 10	Ludkies, *via* Pee Dee, to Main Armidale Road	146 0 0
Burringbar to Cudgera	247 11 2	Lismore Nightcap Road to Dunoon Factory, &c	40 0 0
Martinsville Public School to Wilkinson's C P	75 0 0	Trangie towards Nevertire	11 0 0
Road at northern end of Rawden Island	25 0 0		
Brewarrina to Yarrawm	205 1 5		

Name of Road or Work	Amount of Balance £ s. d.
Gladstone, along boundary of Racecourse	20 0 0
Armidale Road to Timagog	98 15 9
Stroud to Dungog (Cherry Tree Hill deviation)	890 11 11
Carberry's to Chrystal Creek	30 0 0
Bullahdelah to Coolongolook	1,541 5 0
East Kempsey to Spencer's Creek at Ball's River—bank protection	363 0 0
Cudgegong to Piambong	57 5 11
Culvert on Blacktown Road	25 0 0
Hornsby to Galston	358 8 0
Turramurra to Bobbin Head	33 14 6
Haydonton Railway Station to Dwyers	12 0 0
Pennant Hills Road to Beecroft Station to Ray's Road	110 0 0
Lane Cove Road at Turramurra to Bobbin Head Road	25 0 0
Approach to Murray River Bridge at Mulwalla	140 0 0
Booral to Bullahdelah, "Hampton's Hill"	77 0 0
Matthews' to Brown's Creek	53 2 3
Cox's River to Rydal and Hampton Road	269 16 8
Road from Tintenbar to Alstonville Road at Tuckombil School to portion 294	59 8 4
Grong Grong to Narandera	42 0 0
Green Ridge to Knight's Farm	54 6 0
Seven Oaks to Trial Bay River bank protection	88 10 0
Road between Nimbin Road and Goolmangar Creek	90 0 0
Stuart Town to Golden Gully	5 11 4
Hope street, Warialda—drain	15 0 0
Merriwa Cassilis Road near Bow, to Ringwood	10 8 6
Longs Corner to Canowindra	42 0 0
Redbourneberry Bridge, *via* Clydesvale Estate, to Scott's Flat	63 0 0
Botany Road Culvert	507 1 9
Road through Grand Arch, Jenolan Caves	626 6 1
Approaches to Tynedale Punt	25 0 0
Pittwater to Barrenjoey (Mona Vale Hills cutting)	260 0 0
Hayden's to Watson's	20 0 0
Mandelong to Rooney's Farm	67 19 0
Roads on Palmer's Island (River bank protection)	100 0 0
Nowra to Braidwood Road to the Jumps	37 17 0
Illaroo to Brown Mountain	27 0 0
Raymond Terrace, by East side of William's River, to Seaham	228 7 7
Approaches to Wyong Ferry	107 5 9
Causeway, Baerami Creek, on road Sandy Hollow to Widdin Creek	25 18 0
Copeland street, Beecroft	12 0 0
Armidale and Kangaroo Hills Road to Donalo Public School	25 0 0
Armidale and Kangaroo Hills Road to Pint pot, Chandler Road	25 0 0
O'Connell to Swatchfield (Alick's Swamp Creek Bank Protection)	109 5 3
Katoomba to Jenolan Caves	10 7 3
Reedy Flat to Orange and Cadia Gate Road	18 9 0
Bermagui to Cooma and Eurobodalla—Exploration	161 11 10
Manilla to Crow Mountain	25 0 0
Barraba to Burindi	75 0 0
Inverell and Stannifer to Kangaroo Camp	17 12 0
Graman to Ottley's Creek	7 5 0
Walcha to Emu Creek	5 4 8
Sutton Forest, *via* Exeter to Bundanoon	9 2 0
Deep Creek Crossing, Cootamundra to Temora	10 0 0
Bingera to Boira, between Spring Creek and top of Mountain	38 1 0
Bulga, Ellenborough Road	2 6 6
Top Bingera Road	63 8 0
Bourke to Wanaaring	422 16 6
Timonee Punt Approaches	336 14 5
Lugano to Como	1 16 5
Barrenjoey to M'Garr's Creek	12 0 0
Bywong to Road Gininderra towards Bungendore	15 0 0
Cooma, *via* Mawson's Mill, to Murrumbucca	7 12 6
Cattai to Rouse Hill	41 0 0
Dunmore and Clarencetown Road to Seaham Punt	135 0 0
Windeyer to Queen's Pinch	83 0 0
Approach to Raymond Terrace Ferry	821 0 0
Mobb's Hill to Rogan's Hill	200 0 0
Crabbe's Creek Railway Station to the Coast	105 0 0

Name of Road or Work	Amount of Balance £ s. d.
Dripstone to Newrea	144 0 0
Tygalgah Plain Road	25 0 0
Tumut to Lacmalac (Deviation)	250 0 0
Tumut to Tomorroma (Big Hill Deviation)	146 12 8
The Vineyard School to Pitt Town Common	47 10 0
Culvert and Embankment in approach, Yanko Creek Bridge	286 10 9
Approaches, &c, Farmer's Creek Bridge, Lithgow	45 9 3
Kiandra to Yarrangobilly Caves	119 5 3
Pearce's Corner to Brooklyn Railway Station	100 0 0
Yass, *via* Wee Jasper, towards Tumut	1,078 12 8
Flyer's Creek to Forest Reefs	8 13 0
Goulburn Municipal Roads	172 12 0
Windsor to North Dural, between Pitt Town and Cattai	20 7 10
Cootamundra, *via* Gregory's to Jugiong	32 8 9
Forest Hill towards Gumly Gumly	73 0 0
West Wallsend Relief Works	67 17 4
South Grafton to Perrett's	54 6 11
Braidwood to Nelligen, at Currawan Creek (Deviation)	200 0 0
Guyra, Kangaroo Camp Road to Tapp's	15 0 0
Weetangera Road	31 0 0
Waddell's Orchard to Kelman's Gate at Kirkton	120 0 0
Cullen Bullen to Carson's Siding	89 16 0
Goulburn Cooma Road, near 23 M P, to Curriawang	100 0 0
Tuggeranong towards Bulga Creek	13 2 9
Bonnie Doon to Goulburn, Windellama Road	52 0 0
Flags Road into Merriwa	35 0 0
Hillgrove to Perrett's (deviation)	374 0 0
Eden Pambula Road, near Pambula Lake, to Day's	25 0 0
Pambula to Mt Gahan	15 0 0
Temora to Trungley	160 0 0
Saltash to Nelson's Bay	101 10 6
Culvert near Aberfoil on road Guyra to Oban	50 0 0
Road from Railway Gates through Burke's Paddock to Demondrille Butter Factory	35 0 0
Bawden Bridge to Jacky's Creek	5 0 0
Woolgoolga to the Bay	250 0 0
Main South Coast Road, near Campbell town, to Wedderburn	250 0 0
Helensburgh West to Heathcote, Bulli Pass Road	180 17 5
Clearing Streets of Helensburgh West	40 0 0
Culvert at Kingswood, Main West Road	160 0 0
Gorn Gate to Dural Platform	20 0 0
Narandera to Megum	35 0 0
Narandera to Mumbledool and Yalgogrin	210 0 3
Taralga Cemetery Road	47 0 0
Back Creek to River Bank from Road, East Kempsey to Spencer's Creek Road	30 0 0
Bow to Idaville	16 5 0
Gosford and Cooranbong Road to Carrington Apiary	124 6 6
McLeod's towards Comboyna Reserve	120 0 0
Bombala to Delegate, near the 10 M P. to Melbotherie	35 0 0
Gloucester to Copeland	395 19 3
Queanbeyan to Gudgenby at Harris' to Rock View	25 0 0
Meadow Bank Railway Station Approach	780 6 3
Grong Grong to Devlin's Siding	29 12 8
Scone to Denison Diggings Road, *via* Brushy Hill, to Hunter River	25 0 0
Robertson to the Cemetery	54 0 0
Foot of Mountain up Wollondilly River	100 0 0
Yass Road to Cullingar	40 10 0
Byron Gate to Dandaloo	124 4 0
Bullenbong Creek Crossing at Mittagong Sheep-wash	55 0 0
Turlingah to Tuross Heads	43 0 0
Causeway, McLaughlin's Creek, at Sutton	65 0 0
Cooranbong to Mandalong	100 0 0
Leighwood to Bolong River	20 10 0
Bombala, Delegate Road, to Burrumbooka	36 13 11
South Lismore, Coraki Road to Nixon's	50 0 0
Girilambone to Cannonbar	44 0 0
Mount Wayo, *via* Tuena, to the Abercrombie, &c	17 0 0
Sixteen mile Tank to Wyalong	500 0 0
Stewart's Brook to Top Camp	60 0 0
Myers' street, Wilcannia	117 4 0
Upper Boggy Creek Road	30 0 0
Yass to near Gundaroo Road to road Murrumbateman to Gininderra	100 0 0
Main West Road, Glebe to Ashfield	254 17 2
Great North Road, Uralla to Big Ridge	24 12 1

Name of Road or Work.	Amount of Balance. £ s. d.
Road through Glen Murray	300 0 0
Braidwood to Nerriga Culvert, North Creek	50 0 0
Dunmore to Pillaway	15 0 0
Moonbi to Mulla Creek	30 0 0
Gosford to the Blood Tree to Somersley Waterfalls	70 0 0
Morrissett to mouth of Dora Creek	74 0 0
Upper Camden Haven and Laurieton Road, up Black Creek, to Perrott's C.P.	36 0 0
Ballina to Byron Bay, &c., at Hodgkinson's, to the beach	90 0 0
North Berry Jerry to Coolamon	52 11 0
Nymagee to Hermidale	400 0 0
Condobolin to Wyalong	28 0 0
Burraga to Urana	53 4 6
Muswellbrook to Merriwa (washaway at Denman)	154 0 0
Tooma to Welaregang	200 0 0
Main South Road to Bridge site, at Hawksview	31 0 0
Embankment at Coally Flat	161 4 0
Woodburn to Evans River Heads	23 19 2
Coonong Station to Urana	600 0 0
Road through Tomki Estate	11 6 7
Wyee Station to Old Maitland Road	45 0 8
Cobargo to Wadbilliga and Yowrie	81 16 9
Flyer's Creek to Dorney's	128 9 0
Bombala, Delegate Road, at 7 M.P., to Melbotherie	30 0 0
Tarana towards Rydal	127 9 2
Runnymede to Buckenbowra	18 19 0
Main Windsor Road to Outer Domain	26 16 9
Flick's to The Quarry	7 19 10
Glen Innes to Red Range	50 0 0
Road fronting Queen-street, entrance Centennial Park	25 5 2
Narandera to Barellan	18 0 0
Newburn to Rye Park	12 0 0
Molong, *via* Boree, to Cargo Road	47 12 0
Tallywalka Embankment	50 0 0
Risley's to Menticollum	100 0 0
Wauchope to Heron's Creek	52 19 0
Albury to Urana Road, between Mahonga and Walbundrie	200 0 0
Pappenbarra Creek to Cowal	17 8 0
Road to Wallamba Church and School	32 3 9
Wall's Junction to Botobolar	20 19 9
Anderson's to Unkya Road	57 12 0
Portland Ferry to Leet's, Vale Road	50 0 0
Causeway, Bargo River, Main South Road	150 0 0
Towamba to new buildings, road to Towamba to Bondi Road	45 5 0
Nymboida to Tyringham Post Office	78 10 11
Howlong to Tocumwal	105 6 6
Moonan Brook to Glenrock	117 13 4
Bombala to Delegate Road, at Saucy Creek, to Cambalong	40 0 0
Saunders' Corner to Kenthurst	12 18 0
Woy Woy to Blackwall	37 0 4
Laurieton to Upper Camden Haven	60 0 0
Bogan Gate to Dandaloo	19 4 0
Clarence Town to Dungog	187 17 9
Sandy Creek to Mount Vincent	211 0 0
Minmi Relief Works	54 2 2
Ocean Parade	50 0 0
Tumut, *via* Piper's, up Bembowlee Creek	6 19 2
Thirroul to Public School	21 16 0
Carnsdale Railway Siding	46 7 10
Noble's Crossing, Karuah River	23 19 2
South Grafton to Perrett's	227 0 0
Mulwala to Savernake	62 3 0
Main West Road, Glebe to Rookwood	36 8 5
Foot of Gorrick's Hill to Wilberforce	19 17 6
Delegate, *via* Currawang, to Wollondilly Road, &c.	30 0 0
Whitehead-street, Corowa	26 14 4
Inverell, towards Warialda	300 0 0
Albury to Boomanoomana, at 35¾ miles	70 0 0
Cobborah to Denison Town	90 0 0
Carne's Hill to Bringelly	230 0 0
Mulwalla to Berrigan, at Tanner's Lane	200 0 0
Menticollum Gap, along Dividing Range, to Coorabel	147 18 0
Grafton, *via* Southgate, to Broadwater, &c.	25 0 0
Blackheath to Hat Hill	50 0 0
Grafton, *via* Glen Innes to Inverell, to Glen Elgin Mines	27 12 0
Cullenbone to Cobborah, at Reedy Creek Bridge, to Cudgebegong, &c.	100 0 0
Road between Nicholson's and Bathgate's	25 0 0
Muswellbrook to Merriwa (Deviation)	216 13 6
Wilberforce to Argyle Road	50 0 0
Deviation at Rockley Common	27 9 5
Eden-Sturt Road to Mitchell's	30 0 0
Roads in vicinity of Whiteman's Creamery	151 9 0
Towamba-Bardi Road to the Cemetery	35 0 0
Kangaroo Flat Road, at Junction, to Woodton	80 0 0
Tinonee to Failford	81 0 0
Crookwell, *via* Grabben Gullen, to Gunning	69 13 0
Moama to Moulamein	45 0 0
Smithtown to Dairy Factory	7 0 0
Bulli, *via* Coal Cliff, &c., across Railway Line	10 0 0
Woodfordleigh to Tynedale	35 0 0
Road from south-east corner of portion 60, towards Henty	51 10 0
Condobolin to Euabalong	75 0 0
Brushgrove, *via* Bluff Point, to Maclean, between Mackay's and Clarke's	10 0 0
Urana to Boree Creek	42 0 0
Collector to Bredalbane to Bohara	30 0 0
Goorangoola, Bowman's Creek Road	20 0 0
Road from Junction Rock, Urana Road, to Junction with Henty, Munnyabla Road	19 10 0
Wardell-Rous Road to Broadwater	50 0 0
Culvert, Alcorn's Creek	120 0 0
Narrabri to Pilliga	86 5 7
Mudgee, *via* Wilbertree, to Home Rule	45 0 0
Bannister's to Gorman's	23 0 0
Southgate Road to Gear's	40 0 0
Crookwell, *via* Laggan, to Taralga, &c.	20 0 0
Maude-street, Tamworth	25 0 0
Young-street, Brewarrina	40 0 0
Cucumbark School to Krambach Road, &c.	16 0 0
Guyra to Glencoe	50 0 0
Total £	30,725 7 10

Sydney: Charles Potter, Government Printer.—1896.

[3*d*.]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

ROAD VOTES.

(INSTRUCTIONS ISSUED RESPECTING THE EXPENDITURE OF.)

Printed under No. 2 Report from Printing Committee, 28 May, 1896.

[*Laid upon the Table of the House in answer to Question No. 19 of 27th May, 1896.*]

Question.

(19.) ROAD VOTE:—MR. WOOD *asked* THE SECRETARY FOR PUBLIC WORKS,—

(1.) Is it a fact that instructions were issued in March last that one-third of the Road Votes at the disposal of the district officers should be reserved from expenditure?

(2.) Is it a fact that instructions have since been issued that no road contract is to be entered into after the 31st May of this year, thus preventing the expenditure of amounts reserved through the previous instructions of March?

(3.) Are all unexpended road balances written off on the 30th June—the end of the present financial year?

Answer.

[Important.]

CIRCULAR *re* ROAD VOTES.

Department of Public Works, Account Branch, 9 March, 1896.

THE Annual Revenue Votes for main and minor roads for all previous years are now closed, and withdrawn from your lists, leaving at your disposal only the Votes of 1895–6, and the special grants quoted on the copy of your liability statement to 31st December, 1895, sent to you by the Accountant, or since advised.

Attention has been drawn to the large balances still available, and to the necessity for their expenditure on all requisite works before the 30th June next, on which date all moneys not actually drawn from the Treasury by voucher will lapse, irrespective of existing liabilities on that date which will have to be provided for thereafter.

As a first step you will make an aggregate reserve of one-third of your total Votes and Grants, as the financial arrangements set forth in the Estimates of 1895–6 require the expenditure of that portion of the total Vote to be deferred for the present. This proportion of the Vote may be regarded by you as not available, but its apportionment amongst the various Votes and Grants of your district is left to your discretion, that is, you need not reserve one-third from each Vote, provided that the total reserve equals one-third of the total Votes and Grants; but the whole reserve must not be placed on one or two items.

You will then carefully revise your balances and liabilities, and will take such steps as will ensure that all requisite works are carried out and paid for before the 30th June, at the same time being most careful that due regard is given to economical and judicious expenditure.

To effect this the contracts must, of necessity, be let at once.

To further assist in dealing with the expenditure for the year, as far as possible in the year, I would direct you to obtain and submit vouchers for all services, especially of a miscellaneous nature, with the utmost promptitude.

R. R. P. HICKSON,
Under Secretary and Commissioner for Roads.

[Circular.]

Sir, Department of Public Works, Account Branch, 10 March, 1896.

The Minister having been advised as to the total expenditure up to date for the current financial year, and the balance available on the Vote for Roads and Bridges, has instructed me to direct you to at once invite tenders for all necessary works, and to urge on to completion all works now in progress, so that as far as possible all payments may be made before the 30th June.

The prompt rendering of vouchers for payment is also essential to meet the Minister's wishes. Should tenders be invited by you which will exceed amount available on any particular Vote the provision of the excess can be dealt with in the head office.

With respect to the reserve of one-third of the Votes which you have been instructed to make, he desires that you will at once submit proposals in a brief report suggesting the expenditure of the whole or any part of such reserve on the scheduled roads in your district, on such works as commend themselves to you as advisable and which can be completed by contract or day labour and paid for before the 30th June.

He further desires that you should inspect all roads within municipalities entitled to subsidies and submit vouchers for the payment of such amounts as the Councils may be entitled to, and in your intercourse with the municipal officers, that you will inform them that unless the subsidy is applied for and paid to the Council before the 30th June the amounts will not be longer available.

He specially desires that you should realise that as funds are available up to the 30th June for effecting all requisite works which can be completed, and paid for before that date, that you should take immediate action to ensure that result.

I would add that to enable me to report to the Minister each week as to the progress of the Roads and Bridges works the Accountant has been instructed to submit to me a weekly report thereon.

I have, &c.,
R. R. P. HICKSON,
Under Secretary and Commissioner for Roads.

The Resident Engineer.

[Important.] CIRCULAR—M.P. 96-1,585.

Department of Public Works, 27 April, 1896.

YOUR attention is directed to the circular just issued instructing you to give special consideration to the rendition of vouchers for payment before the 30th June.

The monthly wages vouchers of the Roads and Bridges maintenance men should be despatched from your office as early as possible after the 20th of each month. Any amendment which has to be made, owing to subsequent corrections as to time worked, can be adjusted by you when paying the men, or on the next pay-sheet.

The completion of contracts now in progress, and the payment of the accounts relating thereto, is at the present juncture of prime importance.

Municipal Councils have been advised by circular to communicate with you as to the payment of 1895-6 accounts. You will give their applications your best attention.

As any liabilities incurred for contracts let after this date will, to a large extent, create an indebtedness which must be met from next year's Votes, you are instructed that the date for the receipt of all tenders for works already authorised should be fixed so that the agreements will be completed not later than the 31st May, and that until advised that funds for 1896-7 are placed at your disposal, no further tenders are to be invited without special authority. Agreements or bonds for all contracts let should be promptly forwarded to the Accountant.

As far as possible, you should send in requisitions during May for all materials and supplies which it would be judicious to obtain for the ensuing three months. By this means the accounts will be dealt with in June, and the greater portion will be paid before the close of the financial year.

Any recommendations or reports you may have to make with respect to the Estimates and Votes of 1896-7 should be at once submitted.

In 1896-7 the quarterly liability statement will be dispensed with, the method of dealing with tender deposits will be revised, and new voucher registers, contract books, and ledgers will be introduced for general use. You will be further advised thereon and supplied with all information as soon as the books and forms are available.

ROB. HICKSON,
Under Secretary and Commissioner for Roads.

Resident Engineer for Roads and Bridges.

[Important.] CIRCULAR—M.P. 96-1,585.

Sir, Department of Public Works, Account Branch, 24 April, 1896.

The financial year ends on 30th June, 1896, and all balances on revenue votes existing on that date will be "Written Off," irrespective of the liabilities then existing, which must be charged to the Votes of the succeeding year.

In order that every claim against the Department may, as far as possible, be met from the current year's Votes, I have to request that, in the interim, you will immediately deal with and submit to this office all accounts which may be received by you. Advances on contracts should be made to the full extent to which contractors are entitled, and you should carefully inquire as to all outstanding claims for supplies and miscellaneous services, for which vouchers have not been received, and obtain the accounts whenever practicable.

The prompt renditicn of wages vouchers is also essential, especially at the latter end of June, as otherwise the Treasury may charge the vouchers to next year's Votes.

I have, &c.,
T. R. STEEL,
Accountant for Public Works.

Sydney: Charles Potter, Government Printer.—1896.

[3d.]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

BRIDGE TO CONNECT NORTH SHORE WITH SYDNEY.

(PETITION FROM SHIPOWNERS, WHARFOWNERS, SHIPPING AGENTS, &c., PRAYING THAT NO BRIDGE BE CONSTRUCTED UNLESS OF A CLEAR HEIGHT OF TWO HUNDRED FEET ABOVE HIGH-WATER MARK.)

Received by the Legislative Assembly, 20 *May*, 1896.

To the Honorable the Legislative Assembly of New South Wales, in Parliament assembled.

The humble Petition of the undersigned shipowners, wharfowners, shipping agents, merchants, and others interested in commerce in the Colony of New South Wales,—

SHOWETH:—

1. That your Petitioners are informed that private Bills have been introduced into your Honorable House for the purpose of authorising William Kenwood and Benjamin Crispin Simpson, respectively, to construct a bridge across the harbour of Port Jackson, from the vicinity of Milson's Point to the city of Sydney.

2. That your Petitioners are informed, and believe, that in the construction of neither of the said bridges is it contemplated to allow a greater height for the passage of vessels than 150 feet above high-water mark.

3. That your Petitioners are informed, and believe, that in the construction of each of the said bridges it is proposed to have in the fairway of the harbour either one or more piers for the support of such bridge.

4. That both the New South Wales Government Dock and all the private docks in the harbour of Port Jackson, and also most of the wharves at which merchant vessels are berthed in the said harbour, including the wharves of the Railway Commissioners, are situate in that part of the said harbour which is above the site of the proposed bridges.

5. That a height of 150 feet, as above mentioned, would be inadequate for the free passage of a large number of the vessels which visit the harbour of Port Jackson, the masts of many of which vessels run to a height of 180 feet or thereabouts.

6. That the proposal to place a pier or piers in the fairway of this narrow part of the said harbour would be a serious obstruction and danger to navigation, particularly in the night-time, and when the tide is running strongly.

7. That the construction of any bridge of a height of not more than 150 feet above high-water mark, or with piers in the fairway of the said harbour, would operate prejudicially to the business and prospects of both the Government and private docks above mentioned, and would seriously injure the shipping and commerce of the port of Sydney and the Colony generally.

Your Petitioners therefore humbly pray that any Bill which your Honorable House shall sanction for the construction of any such bridge as above mentioned shall provide that such bridge shall have a clear height for the passage of vessels of 200 feet above high-water mark, and shall provide that no pier or other similar obstruction shall be placed in the fairway of the said harbour.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow* 30 *signatures.*]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

BRIDGE TO CONNECT NORTH SYDNEY WITH SYDNEY.

(PETITION FROM CERTAIN RESIDENTS IN THE CITY OF SYDNEY AND ITS SUBURBS, AND IN THE BOROUGH OF NORTH SYDNEY AND ITS ENVIRONS, IN FAVOUR OF.)

Received by the Legislative Assembly, 21 *May*, 1896.

To the Honorable the Speaker and Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned residents in the City of Sydney and its suburbs, and in the Borough of North Sydney and its environs,—

SHOWETH:—

1. That your Petitioners are fully impressed with the urgent need that exists for establishing better communication and greater facility for traffic between Sydney and North Sydney than are available at present to meet the large and increasing requirements of your Petitioners and of the public generally, and that the need in question can only be met by the erection of a bridge and tramway between Sydney and North Sydney.

2. That your Petitioners have perused the notices inserted in the public press by William Kenwood, of Sydney, civil engineer, and a member of the Engineering Association of New South Wales, describing and defining the route of a high-level bridge, and of a tramway between Sydney and North Sydney, designed by him, in which said notices he intimates his intention of applying to your Honorable House for a private Bill, empowering him, his executors, administrators, and assigns to erect and maintain the said bridge, and to erect, maintain, and work the said tramway, and for other purposes in the said notices mentioned.

3. That your Petitioners have likewise perused the descriptions of the said proposed bridge and tramway, given from time to time in the public press, and the comments thereon, and are satisfied that the design and route of the bridge and tramway proposed to be erected and constructed by the said William Kenwood, and are of a comprehensive and practical character, and would be eminently suitable for the requirements of your Petitioners and the public; and your Petitioners are of opinion the erection and working of the said proposed bridge and tramway will be of a great public and local advantage.

Your Petitioners, therefore, humbly pray that your Honorable House will be pleased to receive, favourably consider, and pass the Bill so to be applied for by the said William Kenwood, empowering him, his executors, administrators, and assigns to erect, maintain, and work the said bridge and tramway respectively, and do all other works and things incidental thereto.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow* 86,811 *signatures.*]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS,

FROM

1st JANUARY, 1894, to 30th JUNE, 1895.

Printed under No. 10 *Report from Printing Committee,* 23 *July,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

1896.

*262—(*a*)

[3*s.*]

[949 copies—Approximate cost of Printing (labour and material), £171 16s. 6d.]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

THE DEPARTMENT OF PUBLIC WORKS.

(ANNUAL STATEMENT—1894-5.)

Printed under No. 10 *Report from Printing Committee,* 23 *July,* 1896.

The Under Secretary for Public Works and Commissioner for Roads to The Hon. James Henry Young, M.P., Secretary for Public Works.

Sir, The Department of Public Works, 30 June, 1896.

I do myself the honor to submit, for your information, the Statement of Works carried out by this Department from the 1st January, 1894, to the 30th June, 1895.

The last Report, which related to the period from the 1st January to 31st December, 1893, with supplementary information to 30th June, 1894, was published in September, 1894, and it was hoped by my predecessor that the next statement would be completed so as to permit of its being published still more nearly after the expiration of the period to which the information related; but owing to the entire reorganisation of the Department that afterwards took place, it was found impossible to carry this intention out, and to this cause is due the delay that has occurred in placing the present Report before you.

Since the last statement was published, the whole of the staff of the Department, as you are aware, has been reorganised, with the view of insuring more economical and efficient working, and as a part of this reorganisation the whole of the accounts of the various branches have been brought together under one Chief Accountant. To this position the late Chief Clerk, Mr. D. C. McLachlan, was appointed, and to his energy and ability is largely due the success that has attended the new arrangements.

When it is remembered that the expenditure of this Department is something like £2,000,000 per annum, and the number of contracts entered into between 5,000 and 6,000, the large amount of work involved in bringing together, under one head, the accounts of the various branches, and placing them on such a footing as to insure the prompt and satisfactory dealing with vouchers which number some 40,000 per annum, will be readily understood.

Other

Other important changes have also taken place since the last Report. Mr. C. W. Darley, M. Inst. C.E., who was formerly Engineer-in-Chief for Harbours and Rivers, was transferred to the position of President of the Metropolitan Board of Water Supply and Sewerage and Engineer-in-Chief for Metropolitan Sewerage Construction; and the Roads and Bridges, and Harbours and Rivers Branches, were placed under one engineering head, under the title of Engineer-in-Chief for Public Works, which position was conferred upon me. At the commencement of this year, the Act passed during the last Session of Parliament for the regulation of the Public Service came into force, and the late Under Secretary, Mr. J. Barling, who had been for more than thirty years connected with this Department was appointed one of the members of the Board formed under that Act. Shortly afterwards Mr. McLachlan, the Accountant, was also transferred to the position of Under Secretary to the Department of Mines. In consequence of these changes it was determined by the Public Service Board to appoint me as Under Secretary and Commissioner for Roads, Mr. Darley returning from the Water and Sewerage Board to succeed me as Engineer-in-Chief for Public Works. Mr. T. R. Steel was also appointed as Accountant in place of Mr. McLachlan. These arrangements came into effect in February last.

This explanation may perhaps appear somewhat superfluous, but it is necessary in order to show the altered conditions under which the reports of the branches are submitted.

The gross expenditure for the period covered by this Report amounted to £2,585,922 5s. 8d., of which £1,342,662 18s. 1d. was chargeable to Loans, and £1,243,259 7s. 7d. to Revenue. This expenditure was distributed as under :—

Head of Service.	Revenue.	Loans.	Total.
	£ s. d.	£ s. d.	£ s. d.
Establishment	111,452 11 7	.....	111,452 11 7
Railways and Tramways	.....	591,120 17 11	591,120 17 11
Land Valuation	2,115 0 0	.....	2,115 0 0
Harbours and Rivers and Water Supply ...	229,505 2 1	372,398 12 5	601,903 14 6
Government Architect	97,246 5 8	109,741 10 8	206,987 16 4
Roads and Bridges	797,592 9 6	33,061 13 3	830,654 2 9
Sewerage	5,347 18 9	236,340 3 10	241,688 2 7
TOTAL ... ... £	1,243,259 7 7	1,342,662 18 1	2,585,922 5 8

RAILWAY CONSTRUCTION BRANCH.

Appended will be found the Report of the Engineer-in-Chief for Railway Construction, which shows that since the last Report the following lines have been opened for traffic :—

Lismore to the Tweed.—The first section from Lismore to Mullumbimby, on the Brunswick, a length of 39 miles 24 chains, was opened on May 15th, 1894. The second section, from Mullumbimby to Murwillumbah, on the Tweed, a distance of 22 miles 25 chains, was opened on December 24th, 1894.

In connection with this railway a line of rails has been laid from Murwillumbah to the Colonial Sugar Company's Mill, at Condong, a distance of 2½ miles, for the accommodation of the sugar-cane traffic, the route taken being that which will be ultimately adopted if a junction is made with the Queensland railway system at the Tweed Heads.

The

The total cost of the line, including permanent-way materials and all charges except land compensation, amounts to £795,664 13s. 5d. This includes a length of 1½ mile of line at the Lismore end, and a bridge over Leycester Creek, which was not included in the original recommendation of the Parliamentary Standing Committee on Public Works, but was adopted for the purpose of obtaining a better site for the starting point at Lismore, also the extension to the Condong Mill. The line has been an expensive one to construct, the earthworks throughout having been very heavy in character, the length between Murwillumbah and Mullumbimby especially so. There are also eight tunnels of an aggregate length of 1,652 yards, and these are all lined with concrete. Several steel bridges over creeks are also included in the work, the cost of which has been considerable.

The suburban line from Marrickville to the Burwood Road has also been opened for traffic. The length is 5 miles 4 chains, the line being a double one throughout, and the total cost to date amounts to £191,835 8s. 3d., including land and compensation. These figures may, however, be somewhat increased, as a final settlement of all accounts has not yet been made.

As explained in the previous Report the cost of this line was increased considerably beyond the original estimate owing to the improved accommodation provided at the stations upon the suggestion of the Railway Commissioners, and to the number and width of overbridges erected to meet the requirements of persons whose land has been resumed, and also of the local municipal authorities.

Since January, 1894, the following railway proposals have been under the consideration of the Public Works Committee, and plans, estimates, and other information in connection therewith have been supplied by the Railway Construction Branch, viz. :—Line from Narrabri to Moree; deviation to avoid the Great Zigzag on the Great Western Railway; lines from Temora to Wyalong, Jerilderie to Berrigan, and Parkes to Condobolin.

Acts authorising the construction of the following lines have been passed by Parliament, viz. :—Narrabri to Moree, Jerilderie to Berrigan, and Parkes to Condobolin.

Railway Surveys.

A considerable amount of survey work has been carried out, details of which are given in Mr. Deane's report. Trial surveys have been made of several suggested new lines. A good deal of work was also undertaken for the purpose of improving previous surveys in the direction of economy, and with the view of obtaining better grades.

Tramways.

The following tramways have been completed and opened for traffic :—

	Length.	Cost.	Opened for traffic.
King-street to Ocean-street Cable Tramway	2 miles 32 chains, D track	£174,603 10s. 7d.	19 Sept., 1894.
Extension, Newcastle to Merewether ...	2 „ 28 „ S „	15,464 ...	19 April, 1894.
„ „ „ Tighe's Hill ...	2 „ 23 „ S „	18,787 ...	19 „ 1894.
„ Bondi Aquarium to the Beach...	40 „ D „	12,718 ...	19 Feb., 1894.

Surveys were made and reported prepared in connection with several proposed new lines, but so far as actual construction is concerned no further work was entered upon. The question as to the adoption of electricity as a motive power in connection with the existing main tramway system, and for new lines, has been under consideration, and this perhaps has had the effect of causing a temporary stoppage in our tramway construction work.

During

During the year 1894, Mr. Deane paid a visit to Europe and America, and the opportunity was taken by the Minister to commission him to obtain information on the subject of the construction of light railways, and also with regard to electric and other tramways, both of which questions are of very considerable interest to this Colony. The reports furnished by Mr. Deane are of such importance and value that I deem it advisable to attach them as appendices to this Report.

Harbours and Rivers.

Mr. Darley, the Engineer-in-Chief for Public Works, in his report deals with the work of his branch under the various headings into which it is divided. They are as follows:—Water Supply, Dredging, Improvement of the Harbours and Rivers, Flood Protection, Reclamation, and Sewerage.

The sum of £105,599 0s. 7d. has been expended during the period covered by the Report on water-supply works, nearly the whole of which was in respect of country towns. Works were completed, or in course of construction, at Moss Vale, Dubbo, Nowra, Jerilderie, Nyngan, Parkes, Coonamble, Junee, Lithgow, and Armidale.

Whilst on this subject, I am glad to be able to point to the fact that the administration of these country towns water supplies is now on a much more satisfactory basis than it has been for years past. There can be no doubt that in the case of the earlier works carried out, the municipalities did not sufficiently consider the responsibilities and liabilities they were undertaking, and, in addition, the original Act, under the authority of which these works were constructed, provided that the debts should be repaid to the Government within a period of twenty-eight years. This, however, was found to be quite unworkable, and an amending Act has been passed extending this period to 100 years, which reduces the annual charge on the councils for interest and sinking fund payments to £3·6160 per cent. per annum. The administration of the works by the municipal bodies has been very rigidly inquired into, and in certain cases, where the necessity for such has been shown to exist, a remission of part of the debt has been made in order to bring it within the ability of the councils to meet the annual charges. As a result the liabilities of the municipalities to the Government are now being fairly well met, and I trust that very little trouble will be experienced on this account in the future.

Improvement of Harbours and Rivers.

The expenditure under this head (exclusive of dredging) has been £213,513 5s. 5d. Good progress has been made with the works at the Richmond and Clarence River entrances, the schemes for which were fully described in the last Report.

At the Richmond the South Breakwater was extended 626 feet, and the Northern Training-wall completed, enclosing an area of 63 acres, which it is proposed to reclaim. The North Breakwater, which has been repaired and made up, is now 1,678 feet in length. Up to the 30th June, 1895, 347,842 tons of stone had been deposited at a cost of 4/5 per ton.

At the entrance to the Clarence the South Training-wall was extended to a length of 11,067 feet. At the North Training-wall the old structures were removed to low water, and 1,346 feet of new wall built.

Works for the improvement of the entrance to the Tweed River have also been carried out, the result of which has been very satisfactory.

The

The "No. 5" wall was extended 4,869 feet, and Nos. 2 and 3 walls were commenced and carried out to a length of 3,800 and 3,000 feet respectively.

Steady progress has been made with the Breakwater at Trial Bay, in connection with the Harbour of Refuge which is in course of construction at that place. The Breakwater was repaired and made up, and 90½ feet added to it.

The improvement of Newcastle Harbour is being steadily proceeded with. The Lightship Rocks were removed to a depth of 24 feet below low water, and the Wool Berths at the Queen's Wharf, also rock, were deepened. A channel, 100 feet wide, was excavated to a depth of 25 feet from low water at the entrance to the new basin, and additions were made to the wharfage accommodation.

At Sydney, besides general repairs, new wharfs at Woolloomooloo Bay and Circular Quay, totalling 919 feet, were constructed or nearly completed. New wharfs have been erected at Wagonga and Narooma on the south coast, and repairs and extensions of existing wharfs have been carried out.

Naval Station, Garden Island.

Additional works have been carried out at the Naval Station, Garden Island, for the service of the Admiralty authorities. These included five two-storied houses for storemen and warrant officers; the erection and furnishing of a complete suite of offices; timber store, spar shed, receiving shed, and a store for inflammables. A coal store, capable of taking 2,500 tons of coal, was also in progress. The total expenditure was £47,451 17s. 1d.

Docking Establishment.

During the eighteen months 196 vessels, having a tonnage of 159,587 tons, were docked. A considerable quantity of repairing and construction work was also carried out at the workshops.

Dredging.

The total expenditure on the Dredge Service was £231,935 6s. The quantity of material dredged was 9,808,706 tons, at a cost which compares very favourably with similar work in other parts of the world. On this point of comparative cost the Superintendent of Dredges gives some very interesting information in his report. Excellent work continues to be done by the sand-pump dredges, the introduction of which, as Mr. Darley points out, has reduced the average cost per ton by nearly 50 per cent. Two more of the grab dredges, viz., the "Sigma" and the "Rho," have been converted into dredges of this type.

FLOOD PROTECTION.

Some very valuable work has been carried out in different parts of the Colony in connection with flood prevention, full particulars of which are given in Mr. Darley's report. The danger from floods on our coastal rivers is a constantly-recurring one, and a considerable expenditure on this account is always necessary.

SEWERAGE.

The Sewerage Works are dealt with this time in Mr. Darley's report. The total expenditure was £241,688 2s. 7d., the greater part of which was spent on the works for the metropolis. The complete scheme for the City of Sydney is being steadily carried forward to completion. The works for the Western Suburbs have now

now been for some time in hand. The outfall sewer for that district, which runs on to the Sewage Farm at Botany, has been finished; the main carrier through the farm is well advanced; and on the completion of the eastern branch and sub-mains, which are also well advanced, the reticulation of a considerable portion of Marrickville, Petersham, and Leichhardt, comprising a thickly-populated area of 1,600 acres, will become possible.

The first section of the main northern sewer is in hand, and further sections, extending into Annandale and Balmain, will, before long, be started. Good progress is being made with the sewerage of North Sydney, which is now becoming a largely-populated district.

Reference has been made in previous reports to the splendid results as regards the public health which have followed upon the construction of the sewerage works for Sydney. With the further reticulation which is being carried out, and the extension of the system to the more remote suburbs, the benefits of the scheme are being still more widely distributed.

Roads and Bridges.

As will be seen by the summary before given the expenditure during the eighteen months on roads and bridges works was £830,654 2s. 9d., of which £797,592 9s. 6d. was provided from the Consolidated Revenue and £33,061 13s. 3d. from Loans. This expenditure, as Mr. Scarr, the Principal Assistant Engineer, points out, is considerably less than the rate for the previous twelve months, which is chiefly due to the fact that the conditions have been favourable for road-making, no floods of any consequence—such as often entail heavy expenditure upon the Department—having occurred. The strictest economy has also been practised, and the cost of maintenance reduced to the lowest limit compatible with efficiency.

The figures given in the tabulated statement attached to the Principal Assistant Engineer's report shows that there are 36,070 miles 26 chains of roads under the direct or indirect charge of the Department, of which 24,090 miles 38 chains are cleared, formed, or metalled roads, and 11,979 miles 68 chains simply bush tracks. There are 2,675 bridges of 20 feet span and over, which have a total length of 47 miles 59½ chains; and 28,587 culverts having a total length of 79 miles 77¼ chains, and also 12,383 causeways.

During the period under review 909 miles 48 chains of new roads were formed, metalled, or otherwise improved, and 90 bridges were erected, having a total length of 15,150 feet, the most important being the bridge over the George's River, at Liverpool, 450 feet long; Tarraganda Bridge, Bega River, 1,106 feet long; and the Tocumwal Bridge over the Murray River, a lattice girder on cylinder piers, with a total length of 334 feet, and a steel lift span of 58 feet to admit of steamers passing through the bridge.

Culverts were also constructed having a total length of 1 mile 20 chains, and causeways amounting to a total length of 7 miles 38½ chains.

The average number of men employed was 5,640—1,446 directly by the Department and 4,194 by the contractors.

There are 98 punts, 2 steam-launches, 1 horse-boat, and 187 other boats in use in connection with the ferry service.

The

The Principal Assistant Engineer again draws attention to the necessity for legislative action on the subject of the regulation of the width of tyres of vehicles carrying heavy loads upon the country roads. Owing to the lax state of the law in this respect serious injury is being done to our roads in many parts of the interior, and a heavy expenditure is entailed upon the Department for the extra cost of maintenance thereby caused. It is to be hoped that the necessary remedial legislation will before long be carried into effect.

Mr. Scarr also refers to the increasing competition in carriage of goods by road with the railways, which has entailed much extra expense in the maintenance of several of the main roads of the Colony, and to the rather perplexing question this raises as to how far the Government are justified in expending large sums on the maintenance of roads which are used extensively to enable carriers of goods by road to successfully compete with the Government railways. There is no doubt that in dealing with projected new roads in the future this is a feature that will have to be carefully considered.

Government Architect's Branch.

Mr. Vernon's report shows that during the eighteen months ending 30th June, 1895, an amount of £192,109 7s. 7d. has been expended in the erection and completion of new public buildings, and in repairing, furnishing, and improving existing ones, and also in other miscellaneous services connected therewith.

This expenditure has been incurred in connection with 630 buildings, of which nine have been completed or erected entirely within the period named.

The principal buildings completed were as follows :—

	Total cost. £	s.	d.
Sydney Hospital	80,810	16	9
Additions, &c., to the Royal Mint	6,686	9	5
Regent-street Lock-up	3,495	1	7
New wing, Gladesville Asylum	11,003	2	4
Post and Telegraph Office, Newtown	4,905	11	3
Additions, Newington Asylum...	4,235	1	4
Additions to Rydalmere Hospital for Insane...	15,335	13	11
Additional pavilions, Rookwood Benevolent Asylum ...	5,038	13	2
Lands Office, Moree	3,384	17	0

The expenditure of this branch is smaller than that of previous years, which is due to the fact that a policy of the strictest retrenchment and economy has been followed, and the erection of no new buildings has been undertaken, except where absolutely necessary for the proper performance of the Public Service.

It is, however, to be noted that, owing to the depressed condition of the building trade, the work has been done at a greatly reduced cost, amounting to probably 25 per cent., and therefore the expenditure covers a comparatively greater amount of work as compared with previous years.

The total number of buildings under the charge of the Government Architect is 947, upon which, including sites, Mr. Vernon has placed a valuation of £9,410,622. This valuation, however, was made some time ago, and as real property in the Colony has since become somewhat depreciated in value, these figures must be taken as subject to modification.

The

The Government Architect again draws attention to the inadequacy of the votes which are placed at his disposal for the maintenance and repair of existing buildings. He points out that depreciation takes place at the rate of at least 1·25 per cent. per annum, giving the average life of a building at about ninety years, while the sum voted at present represents only ·37 per cent. When it is taken into consideration that this percentage has to cover, not only annual repairs, but numerous minor improvements and additions, it will be seen that the sums provided are much less than is required to keep the buildings in a state of efficiency, and many must necessarily remain without proper attention. It is to be hoped, therefore, that Parliament will see its way to make more liberal provision under this head.

A commencement has been made with the scheme for the erection of an extensive hospital for the insane at the site purchased for the purpose, at Kenmore, near Goulburn. The sum of £17,245 has been expended in the partial erection of the administrative buildings, in order to temporarily accommodate patients pending the erection of the patients wards. This step has been unfortunately necessary owing to the increase in the number of insane persons and the insufficiency of the accommodation at the existing asylums.

Land Valuation.

The Report of the Land Valuer shows that from 1st January, 1894, to 30th June, 1894, claims were dealt with, and valuations and estimates made as follows :—

	£	s.	d.
Claims for land for railway and tramway purposes ...	15,174	17	2
Other purposes	122,153	5	1
Total	£137,328	2	3
Valuations of resumptions for railway and tramway purposes	32,169	4	7
Other purposes	42,722	13	2
	£74,891	17	9
Estimates of value of proposed resumptions	£1,338,313	8	4

In the last report reference was made of the fact that owing to the illness of the Lands Valuer, Mr. J. B. Thompson, Mr. T. F. Waller had been appointed to carry out the duties of the office. I am glad to say, however, that Mr. Thompson has since recovered, and he has been reappointed to his old position. He resumed duty on the 1st January, 1895.

Water and Sewerage Boards.

In the last report reference was made to the work of the Water and Sewerage Boards of the Metropolis and the Hunter River Districts, both of which are affiliated to this Department. The report of the Metropolitan Board for 1894, which has been laid before Parliament, contains some very interesting information, from which is taken the following figures :—

The average consumption of water per estimated head of population supplied was 34·23 gallons, as against 32·12 for the previous year. The average daily supply was 13,739,000 gallons, and the estimated population supplied was 401,380. During the year over 46½ miles of new mains were laid and 976 ball hydrants fixed, making the total length of mains laid in the city and suburbs, exclusive of trunk mains, 792 miles, with 1,451 screw-down hydrants and 15,208 ball hydrants. There

There were 18·35 miles of sewers laid by the Board during 1894, and 1·27 by the Government and transferred to the Board, making a total of sewers laid of 201·95 miles. There were also storm-water drains under the Board's control amounting to 9·82 miles. The number of houses connected with the sewers during year was 3,903, making a total of 39,965.

The capital debt of the Board stood at £5,185,734, the revenue received was £254,301, which, after deducting working expenses, returned in interest 3·60 per cent. on the capital, as against 3·66 for the previous year.

The working of the Board continues to be in every way satisfactory, and there can be no question that in the management of the important matters of water supply and sewerage Sydney furnished an example which might well be copied by many older cities.

The Hunter River Board have not presented any report of their working for the period under review, so I am unable to give any particulars in this report.

Since the last Report was published, the business in connection with water conservation, which at that time was dealt with by this Department, has been transferred to the Department of Mines, and any information on that subject must, therefore, be sought in the report of the Department named.

In concluding this Report, I would point out that it has only been possible for me to make reference to the most important of our works, and that there is much interesting information to be found in the reports of the various branches which will, I am sure, repay perusal.

ROBT. HICKSON, M. Inst. C.E.,
Under Secretary for Public Works and Commissioner for Roads.

CONTENTS

CONTENTS OF APPENDIX.

LIST OF ILLUSTRATIONS.*

HARBOURS AND RIVERS.

Cargo Shed, east side of Circular Quay.
Bungalow Office, Naval Station, Garden Island.
Interior of Workshop, Naval Station, Garden Island.
Junee Water Supply—Dam at Bethungra (in course of construction).
Junee Water Supply—Bethungra Falls, below Dam.
Nyngan Water Supply—Dam (in course of construction).
Coal Stores, Naval Station, Garden Island.
Houses for Warrant Officers, Naval Station, Garden Island.
Office Building, Naval Station, Garden Island.
Junee Water Supply—Dam at Bethungra (in course of construction).
Moss Vale Water Supply—Storage Reservoir.
Nyngan Water Supply—Water Tower.

RAILWAYS.

LISMORE-TWEED RAILWAY, 4TH SECTION—
Northern Entrance, No. 6 Tunnel.
Bridge, Leicester Creek.
Bridge, Wilson's Creek (Contract No. 1).
Lismore Station.
Burringbar Creek Bridge (4th Section).
Bridge, Beloreget Creek (4th Section).
Road between Tunnels 1 and 2.
Brunswick River Bridge (4th Section).

MARRICKVILLE TO BURWOOD ROAD RAILWAY—
Fernhill Station.
Canterbury Station.
Marrickville Station.
Cook's River Bridge, Canterbury.

GOVERNMENT ARCHITECT.

New Wing, Hospital for the Insane, Gladesville.
New Pavilion, Rookwood Benevolent Asylum (interior).
The Lands Office, Moree.
New Pavilions, Rookwood Benevolent Asylum.

BRIDGES.

"Hampden" Bridge over Murrumbidgee River at Wagga Wagga (2).
Wilcannia Bridge, Darling River.

LIST OF PLANS AND MAPS.*

Part of the Tweed River and Terranora Creek.
Clarence River Entrance.
Trial Bay Harbour Works.
Plan of Circular Quay, Sydney.
Richmond River Entrance.
Bellinger River Entrance.
Cook's River, Shea's Creek, showing Fascine Bank reclaimed and resumed land.
Manning River Entrance.

* Not printed, by order of the Printing Committee.

Railways and Tramways.

(I.)

REPORT OF THE ENGINEER-IN-CHIEF FOR RAILWAYS.

The Department of Public Works,
Railway Construction Branch, 1 July, 1895.

Sir,

I have the honor to make the following report for the period commencing January 1st, 1894, and terminating 30th June, 1895:—

RAILWAYS.

During this period the Lismore to the Tweed Railway was opened for traffic in two sections—the first from Lismore to Mullumbimby, on the Brunswick, a length of 39 miles 24 chains, on May 15th, 1894, and the remainder from Mullumbimby to Murwillumbah, on the Tweed, 22 miles 35 chains long, on December 24th, 1894.

The maintenance of both sections has been taken over by the Railway Commissioners.

In connection with this railway a line of rails has been laid from Murwillumbah to the Colonial Sugar Company's mill, at Condong, a distance of 2½ miles, for the accommodation of the cane traffic. The route taken is that which will be ultimately adopted if a junction is made with the Queensland railway system at the Tweed Heads.

The following is a description of the works:—

Lismore to The Tweed Railway.

The line commences at Lismore, on the right bank of the north arm of the Richmond River, it crosses Leycester Creek near its junction with Wilson's Creek; thence with a general north-easterly direction passes through the village of Bexhill, crosses Cooper's, Wilson's, Pearce's, and Byron Creeks, till it reaches Byron Bay, where a station is provided, and also a connection by rail with the jetty. From Byron Bay the line proceeds north-westerly to Mullumbimby, on the southern bank of the Brunswick River, which it crosses; thence, following a north-easterly direction, crosses the north arm of the same river, passes through Burringbar, and after crossing Burringbar Creek three times and Dunbible Creek twice, reaches the southern bank of the Tweed River opposite the township of Murwillumbah.

The earthworks throughout are heavy in character, the length between Mullumbimby and Murwillumbah being especially so.

There are eight tunnels of an aggregate length of 1,652 yards, and these are all lined with concrete.

Much of the country passed through is subject to heavy rainfall and consequent floods, so that a large number of culverts and bridges had to be provided. The smaller openings are chiefly of timber, which in some cases form viaducts of considerable length. The principal creeks are spanned by steel bridges, and these are as follows:—

Leycester Creek.—Three 120-foot steel-trussed spans, and two spans of 42 feet, with plate-girders.
Cooper's Creek.—One 120-foot steel-trussed span.
Wilson's Creek.—One 120-foot steel-trussed span, with two plate-girder spans of 20 feet each in addition.
Pearce's Creek.—One 120-foot steel-trussed span.
Brunswick River.—Four 66-foot steel spans.
Burringbar, first and third crossings.—One span of 66 feet at each place.
Do second crossing.—Two 42-foot spans.
Dunbible Creek, first crossing.—One 66-foot steel span.
Do second crossing.—One 120-foot steel span.

The girders, with the exception of the abutments at Leycester and Wilson's Creeks, rest on cast-iron cylinders filled with concrete. The abutments mentioned are of concrete.

Gates have been dispensed with at the public road level crossings, and steel grids have been laid down to protect the line from the straying of stock.

The ruling grade is 1 in 50, and of this there is an aggregate length of over 6 miles.

The permanent way of the main line is laid with 71½-lb. steel flat-bottomed rails fixed to sleepers 8 feet by 9 inches by 4½ inches, mostly of ironbark timber. In the sidings old iron rails have been used.

Station buildings have been provided at Lismore, Woodlawn, Bexhill, Mayfield, Laureldale, Booyong, Birra-Burra, Granuaille, Byron Bay, Tyagarah, Mullumbimby, Billinudgel, Mooball, Burringbar, Dunbible, and Murwillumbah. Local timber has been largely used in their construction.

The usual practice of making high platforms has been abandoned. Passenger-landings near the level of the rails have been adopted, and cars similar to those in use on the suburban lines, with additional steps at the end, are being used.

At Lismore a timber wharf, 100 feet long, has been erected on the river bank, and is connected with the station-yard by a line of rails.

At Lismore, Byron Bay, and Murwillumbah wrought-iron circular engine-tanks, of 20,000 gallons capacity, built on brick towers, have been erected. The water supply at Lismore is taken from the town service. At Byron Bay water has been obtained by sinking a well in the sand, and is thence pumped into the engine-tank. At Murwillumbah there is an excavated pit of 1,429,300 gallons capacity to catch the rain water.

The works have been let by contract in the following manner:—

Contract No. 1, erection of steel bridges over Leycester and Wilson's Creeks, to Messrs. Crosbie, Marquand, & Co. Total payments £22,268 5s. 11d.
Contract No. 2, for 16 miles of line, including erection of steel bridges over Cooper's and Pearce's Creeks, to Messrs. Kerle and Kerle. Total payments, £198,125 18s. 3d.

Contract

Contract No. 3, from the end of No. 2 to Mullumbimby, 23 miles 24 chains in length, to Mr. Martin Danaher. Total payments, £171,445 12s. 3d.

Contract No. 4, for the remainder of the line to Murwillumbah, 22 miles 35 chains in length, to Messrs. Willcocks and Firth, who also completed the extension to the Condong Mill. Total payments amounted to £332,022 11s. 6d.

Contract No. 5, for the erection of station buildings at Lismore, Woodlawn, Bexhill, Mayfield, Laureldale, and Booyong, to Mr. A. D. Scouller. Total payments, £5,139 14s. 7d.

Contract No. 6, for the erection of station buildings at Binna Burra, Granuaille, Byron Bay, Tyagarah, and Mullumbimby, to Mr. W. Mitchell. Total payments, £3,849 12s. 7d.

Contract No. 7, for the erection of station buildings at Billinudgel, Mooball, Burringbar, Dunbible, and Murwillumbah, to Mr. F. Lemm. Total payments made, £2,802 12s. 2d.

Contract No. 8, for the supply and erection of engine-tank at Murwillumbah, to Messrs. G. and C. Hoskins. Total payments, £316 16s. 2d.

Contract No. 9, for the supply and erection of pumping machinery for Murwillumbah, to Mr. J. S. Rogers. Total payments, £303 14s. 11d.

The total cost of the line, including permanent way, material, and all charges, excepting land and compensation, is £795,664 13s. 5d. This includes a length of 1½ miles of line at the Lismore end and a bridge over Leycester Creek, which was not included in the original recommendation of the Parliamentary Standing Committee on Public Works, but was adopted for the purpose of obtaining a better site for the starting point at Lismore, also the extension to the Condong Mill.

The payments for land resumption and accessory charges have amounted to £34,994 4s. 7d., and will probably be further increased by about £2,000.

Marrickville to Burwood Road Railway.

The works on this railway have been completed and the line opened for traffic.

The contractors having refused to take up the maintenance, this is now being carried on by the Railway Commissioners.

The line leaves the Illawarra line at Sydenham station (previously called Marrickville), 3¼ miles from Sydney, passes through Canterbury, and crosses Cook's River at the same place, and terminates at Burwood Road, Belmore.

The total length is 5 miles 4 chains, and the works are for a double line throughout.

The earthworks are somewhat heavy in character, in consequence partly of the nature of the country and partly as the result of a grade of 1 in 100 being adopted as the ruling grade.

The principal bridges are of iron and steel, and are as follows:—

Over the projected storm-water channel at Marrickville flats, two 30-foot wrought iron spans.

At Terrace Road and Wairoa-street steel bridges are provided, with spans of 30 feet each, resting on brick piers and abutments.

At Cook's River there are four spans of 60 feet. These consist of four lines of plate girders under the road. The abutments are of brick and the piers of cast iron filled with concrete.

Numerous overbridges for public and private purposes have been erected. These for the most part consist of timber superstructures resting on brick piers. But Canterbury Road, Canterbury, is carried over the railway on brick skew arches, with stone skewbacks, facings, and parapets.

Stations are provided at Illawarra Road (Marrickville), Wardell Road, Fernhill, Canterbury, Campsie, and Belmore. These have island platforms, and in the case of Marrickville, Canterbury, and Belmore buildings ornamental in design but economical in construction have been erected.

At Canterbury Station, in addition to the usual accommodation, a long platform and carriage dock with appropriate sidings, to meet the traffic requirements for race meetings at the Canterbury Racecourse, which is in the immediate vicinity, have been provided.

The permanent way consists of 71½-lb. steel flat-bottomed rails, laid on sleepers 8 ft. x 9 in. x 4½ in., with 6 in. of sandstone bottom ballast and blue metal top ballast.

The works were let in the following contracts:—

Contract No. 1, for the principal works, to Messrs. Proudfoot and Fletcher. Total payments to date, £84,097 18s. 2d.

Contracts Nos. 2 and 3, for erection of station buildings at Marrickville, Fernhill, Canterbury, and Belmore, to J. J. Scouller & Co. Total payments, £5,801 2s. 10d.

Contract No. 4, for the erection of waiting-shed, ticket office, and stairs from platform to overbridge at Wardell Road and Campsie, to John Cameron. Total payments, £239 6s. 8d.

Contract No. 5, for the erection of station-master's house, Canterbury, to F. L. Lemm, jun. Total payments, £476 7s. 11d.

The works on this line have been largely increased, owing to the improved accommodation at the stations, and to the number and width of overbridges to meet the requirements of persons whose land has been resumed and also of the local municipal authorities.

Narrabri to Moree Railway.

The working drawings have been completed, and tenders were called for the construction of this line on May 7th, 1895.

The delay in accepting the tender was occasioned by an application of a majority of the townspeople of Narrabri to have the line deviated, so that the new station might be nearer to the centre of the town.

All the sleepers required for this line have been supplied under contract by the Sleeper-getters' Association, and delivered at Narrabri old station.

The amount of the estimate and vote for this line is £153,000, and this amount has been appropriated from the old vote of 1884.

Since January, 1894, the following railway proposals have been under the consideration of the Public Works Committee, and plans, estimates, and information of various sorts connected with these inquiries have been prepared and supplied by this Branch:—Narrabri to Moree, deviation to avoid Great Zig-zag, Temora to Wyalong (two occasions), Jerilderie to Berrigan, Parkes to Condobolin.

Acts authorising the construction of the Narrabri-Moree, Jerilderie-Berrigan, and Parkes-Condobolin lines have been passed by both Houses.

Permanent Surveys.

Glen Innes to Inverell.

The amended permanent survey of this line was commenced in March, 1894, and is now nearly completed. Trial holes are being put down for the purpose of ascertaining the nature of the excavation in the cuttings.

Narrabri to Moree.

The amended permanent survey, inclusive of sidewidths, was commenced in February, 1894, and completed in October. The total length is 63 miles 9 chains.

As already mentioned working plans, sections, &c., have also been prepared and tenders called for construction.

Temora and Wyalong.

The permanent survey of this proposed extension, including sidewidths, was made in 1894. In March, 1895, I inspected the road, and, on my recommendation, the Minister approved of certain deviations which are now being surveyed. The estimate for this line, which has been considered by the Public Works Committee, is £2,300 per mile. The total length is about 40 miles.

Jerilderie to Berrigan.

The permanent survey of this authorised line, including an alteration of the first six miles at Jerilderie, was completed early in June, 1895. Length, exclusive of deviation, 21 miles 10 chains.

At the end of June, 1895, two deviations to meet the wishes of some of the land-owners along the line were approved, and are now being permanently staked.

Locksley Deviation.

The permanent survey of this deviation to cut out the 1 in 33 gradients was commenced in April, 1895, and finished in June. Length, 4 miles 46 chains. The preparation of the working plan, section, &c., is in hand.

Bexhill to Cooper's Creek.

A private line on a 4-ft. 8½-in. gauge has been permanently staked for the landowners along the route. Length, 5 miles 74 chains.

Byangum to M'Kenzie's Crossing.

This 2-foot gauge horse-traction line, which the residents of the district propose to construct, has been permanently staked. Length, 4 miles 52 chains.

Tweed River to Terranora.

The permanent survey of this 3-foot gauge horse-traction line, inclusive of two branches, proposed to be constructed by the land-owners along the route, 1 mile of which was surveyed last year, has been completed. This line junctions with Mr. J. Cowan's wire rope tramway. Length, 3 miles 70 chains.

Tweed River to Dungay Creek.

A private line on a 3-foot gauge, for horse-traction, has been staked for the landowners along this route. Length, 2 miles 40 chains.

Trial Surveys.

Bourke to the Queensland Border.

A trial survey of an extension from Bourke to the Queensland Border, *via* Mungunyah and Wapweela, intermediate to those from Bourke to Barringun, and from Bourke to Hungerford, has been completed. Length, 63 miles 32 chains.

A trial survey of a modification of the original line, between Bourke and North Bourke, at the crossing of the Darling River, has been made. Length, 2 miles 40 chains.

Moree to Inverell.

The exploration of this line, about 100 miles in length, was made in 1894, and the trial survey commenced.

It is now with the exception of two small portions complete. These are at Warialda, where a new deviation is being investigated, and at Inverell where a modification of the location of the line is necessary, so as to allow of a better crossing of the river, in the event of the line being extended.

Tamworth to Barraba, *via* Manilla.

A trial survey has been made, starting from Tamworth, on the G. N. Railway, through Manilla to Barraba. Length, about 57 miles.

Forbes to Condobolin.

The trial survey of an alternative route, direct from Forbes station, to junction with the Parkes to Condobolin line at Goobang Creek, has been completed. Length, 5½ miles.

Parkes to Condobolin.

The survey of a new and more direct route for this line, showing great improvements in the matter of economy and grades is nearly completed. Plans have been prepared and laid before the Public Works Committee who reported favourably on the line, and the construction has since been authorised by Parliament. The estimate is £2,100 per mile.

Barmedman to Hillston, *via* Cargelligo.

The trial survey of an alternative route, *via* Cargelligo, in substitution of the direct line, *via* Rankin's Springs, has been completed. Length, 159 miles 40 chains. A deviation north of the Lachlan River, 11½ miles in length, has also been surveyed.

Pearce's Creek to Ballina, *via* Teven.

This line, the trial survey of which was commenced early in 1893, and its completion postponed on account of more urgent work in the Tweed River district, has been completed. Length, 7 miles 40 chains.

Lismore to The Tweed. Railway Feeder No. 6.

A trial survey of this short branch feeder has been completed. Length, 2 miles 30 chains.

Lismore to The Tweed. Railway Feeder No. 7.

The preliminary survey of a portion of this proposed branch feeder was carried out, when, on account of the excessively heavy earthworks for this class of line, it was abandoned.

Lismore to The Tweed. Railway Feeder No. 8.

The completion of the surveys of this proposed branch line, length 2 miles 10 chains, finishes the series authorised to date.

Deviations to avoid the Great Zig Zag.

Various explorations have been made and trial lines run with a view of selecting the best route. The field work is very nearly complete. The country is extremely rough, the surveyors have daily to surmount precipices and cross deep ravines, and the work is necessarily laborious and slow.

The following explorations have been made:—

Guyra to South Grafton, *via* the Orara Valley.

The exploration of an alternative line, from Bobo Creek up the Orara Valley, to a portion of the Guyra to South Grafton trial survey, *via* Nana Creek, has been made. Length, 40 miles. The trial survey had just been commenced when the survey parties were recalled.

Coff's Harbour to Glenrigh.

This is an exploration of an alternative line, to a portion of the North Coast route, West Maitland to South Grafton, from Coff's Harbour to a junction with the explored route, Guyra to South Grafton, *via* the Orara Valley, mentioned above. Length, 9 miles.

Edgeroi to Collarindabri.

An exploration has been made of a branch line, from Edgeroi, on the Narrabri to Moree line, to Collarindabri, passing near Millie. Length, 80 miles.

Narrabri to Collarindabri.

An exploration has been made of an alternative line, direct from Narrabri. Length, 90 miles

Narrabri to Merkadool.

The exploration of a route *via* Wee Waa, to tap the Barwon River, has been made to Merkadool, a few miles south of Collarindabri. Length, 100 miles.

Goulburn to Crookwell.

A trial survey of deviations, aggregating 30 miles in length, improving portions of the permanently-staked line has been completed. Total length 35 miles 42 chains.

Lismore to Nimbin.

An exploration of this proposed private line has been made. Length, 29 miles.

Mayfield to Eureka.

The exploration of a similar line to the one referred to in the preceding paragraph has been carried out. Length, 7 miles.

Woodlawn to Dorrobbee.

An exploration of a proposed private line has been made from Woodlawn, on the Lismore to the Tweed Railway, to Dorrobbee. Length, 7 miles.

Woodlawn to Cooper's Creek West.

An exploration has been made of a proposed private line, from a point near the terminus of the Woodlawn to Dorrobbee exploration mentioned in the preceding paragraph, to Cooper's Creek West. Length, 6 miles.

Pearce's Creek to Ballina, *via* Chillcott's Range.

The exploration of an alternative route, to a portion of the trial survey, has been made, *via* Chillcott's Range. Length, 7 miles 40 chains.

Wilcannia to Tibooburra and Wampah.

An exploration has been made to connect Wilcannia, on the Darling River, with Wampah, on the Queensland Border, passing through Tibooburra. Length, 200 miles.

Hilltop to Mittagong.

A further exploration has been made with the object of cutting out the heavy grades against the up traffic. Length, 7 miles 60 chains.

Coolaman to Warri.

An exploration of an alternative line to that from Coolaman to Mandamah (Broken Dam) has been made to Warri. Length, 36 miles.

Condobolin to Cargelligo.

An exploration has been made between the above places. Length, 55 miles.

Liverpool to Bringelly and Mulgoa.

A further inspection and exploration of this route has been made principally to collect statistics as to the increase of settlement, &c.

Wyalong to Cargelligo, *via* Ungarie (late Wollongough).

An exploration has been made of a proposed route *via* Ungarie (late Wollongough) as an alternative line to the direct trial survey. Length, 80 miles.

Zig-zag Deviation, *via* Hartley.

At the request of the Hartley Progress Association, an exploration of a route passing near Hartley was authorised, and has been made. Length, 18 miles 40 chains.

Drafting.

A considerable amount of drafting and other work including the preparation of wall-maps, plans, tions, compilations of lithographs, &c., has been done for the Public Works Committee in connection w h the following projected railways:—

Bourke to Barringun,
Jerilderie to Berrigan,
Narrabri to Moree,
Temora to Wyalong,
Deviations to avoid Zig-zag,
Parkes to Condobolin,
Byerock to Brewarrina,
Nevertire to Warren,

as well as the revision of the Colony maps of New South Wales and Victoria, and the preparation of a railway map of the southern portion of Queensland.

Two very large maps of the city and suburbs of Sydney, showing the routes selected by the Royal Commission for final decision, were prepared for the use of the Minister for Public Works in connection with a deputation to urge the construction of the City Extension Railway.

The working plans, sections, and diagram plans of the following private lines have been prepared, and copies, accompanied by duplicate curve books and estimates, have been forwarded for transmission to the promoters:—

Tweed River to Duranbah, Parts 1 and 2, and Horse Branch.
Tweed River to Terranora, Parts 1, 2, and 3.
Tweed River to Dungay Creek, Parts 1 and 2.
Byangum to M'Kenzie's Crossing.

Progress has been made with the working plans and sections, also proclaimed plans, &c., of the following permanently-staked lines:—

Temora to Wyalong.
Glen Innes to Inverell.

The general office work in connection with some of the trial surveys, &c., is in a backward state, on account of the pressure of other work, and the smallness of the staff, through retrenchments during the year 1894, which resulted in the services of twelve officers being dispensed with.

TRAMWAYS.

The following Tramways have been completed and opened for traffic:—

Name of Tramway.	Distance.	Total Length, Single Track.	Date Opened for Traffic.
	Mls. chs.	Mls. chs.	
King-street to Ocean-street Cable Tramway	2 32	4 69	19th September, 1894.
Extension, Newcastle to Merewether	2 28	2 48	19th April, ,,
Extension, Newcastle to Tighe's Hill	2 23	2 40	19th April, ,,
Extension, Bondi Aquarium	0 40	1 21	19th February, ,,

Surveys have been made, and reports prepared, on the following proposed extensions:—

Extension to the Spit, Middle Harbour, alternative route ... ... Permanent Survey.
Branch Line, Rushcutters' Bay to Paddington (from Ocean-street Cable) ,, ,,
Extension to Randwick and Kensington Racecourses ... ... Trial Survey.
Tramway Atlas Co.'s Wharf to Field of Mars, *via* Hunter's Hill ... ,, ,,
Extension, Balmain to Drummoyne ... ... Report.
Extension, Balmain to the Field of Mars, *via* Drummoyne ... ... ,,
Extension, Military Road to Mosman's Bay ... ... ,,

Newcastle to Merewether.

This extension was completed and opened for traffic on the 19th April, 1894; the contractors were Messrs. Walters and Smith. This line should have been opened some time previous to the above date, but owing to the continued subsidences in Melville-street and at the terminus the opening of the line for traffic was delayed.

The cost of this extension, which is 2 miles 28 chains in length, single track, was £15,464.

Newcastle to Tighe's Hill.

Mr. S. F. Stokes, the contractor for this extension, had the line completed and ready for opening at the end of 1893, but owing to the non-completion of the new terminal arrangements in Newcastle the opening was delayed until the 19th April. The cost of this line, which is 2 miles 23 chains in length, single track, was £18,787, of which the sum of £2,100 was contributed by the Roads and Bridges Department for the combined road and tramway bridge over Tighe's Creek.

Extension, Bondi Aquarium to the Beach.

By Ministerial instructions, this work was carried out by day-labour under departmental supervision, and was completed and opened for traffic on the 19th February; the total cost of works being £12,718; length of line, 40 chains, double track.

King-street to Ocean-street Cable Tramway.

All the contracts in connection with the construction of this tramway were completed by the end of the year 1894, but final measurements in connection with contracts 3 and 5 were not completed.

The line was opened for traffic on the 19th September, 1894.

The following contracts were entered into:—

Contract No. 1—Supply of slot beams, guide bars, and fish-plates, was given to Mr. W. Sandford, of the Esk Bank Ironworks, Lithgow, and completed by the 17th November, 1893.

Contract No. 2—Supply and manufacture of wrought and cast ironwork.—The contractors, Messrs. Souter and Martin, completed their contract on the 6th June, 1894.

Contract No. 3—Construction of permanent way.—Mr. Justin M'Sweeney successfully carried out this contract, and the whole of the works were completed by the end of June, 1894.

Contract No. 4—Power plant and driving gear.—Messrs. Hudson Bros. (Limited) had the plant in running order early in September, 1894, when they entered upon their three months term of maintenance.

Contract No. 5—Power and car house.—Mr. Thos. Clark completed his contract by the end of September, 1894. Work in connection with this contract was seriously delayed, owing to some of the materials which had to be imported not coming to hand. This retarded the completion of the whole of the works by some five months.

Contract No. 6—Supply of steel cable tramway ropes.—Messrs. Noyes Bros. completed their contract during July, 1894, the ropes being delivered wound on reels in the cable storage shed, Rushcutters' Bay.

Contract No. 7—Erection of caretaker's cottage, Rushcutters' Bay.—Mr. G. Brewer completed this contract in December, 1893.

Contract No. 8—Manufacture and supply of points or crossings.—Mr. Justin M'Sweeney completed this contract early in August, 1894, the whole of the permanent way being then ready for threading the cables.

The following is a description of power plant:—The main engines consist of two sets of horizontal, compound, surface condensing corliss engines, each connected to the driving shaft by wedge couplings. Diameter of cylinders 24 and 45 inches, length of stroke 5 feet 6 inches, working at a speed of 56 revolutions per minute, with a boiler pressure of 120 lb. per square inch; they are rated to develop 750 indicated horse-power, but can be worked upon an emergency to 1,000 I.H.P. Cranks and crank shafts are of steel 14 inches diameter in bearings, swelled to 16 inches in centre to carry fly wheel, which is 21 feet 6 inches in diameter. Valve

Valve gear is of the corliss type, so arranged that engines may be run either way, a hand reversing gear being provided. The governor is of the "Porter" type high speed, and is driven by gearing from main shaft. On the driving shaft are fixed two rope sheaves 7 feet diameter, each of which drives a rope sheave 21 feet diameter, having 18 grooves for 2 inch cotton ropes.

Running on the same shafts as the large pulleys, are the differential cable driving drums, two 12 feet diameter, and two 14 feet diameter of the "Walker" type. Steam is supplied by three horizontal externally fired tribular steel boilers, each 7 feet diameter, and 16 feet long, with a grate area of 33 square feet, and a total heating surface of 1,328 square feet each.

The power and car house is situated at Rushcutters' Bay; all external walls are of double pressed facing bricks, with dressings in Terra Cotta. The interior of the engine-room is finished with a dado of white enamelled bricks 6 feet high, the rest of the walls being Keen's cement.

The main buildings consist of engine-room 194 feet 6 inches, by 99 feet 6 inches; car-house 196 feet, by 87 feet; and boiler-house, at rear of engine-room, 59 feet by 45 feet; while offices, reading-room, lavatories, and other necessary conveniences are provided.

The height of the chimney, which is built of brick, in cement, is 180 feet from boiler-house floor, and that of the tower at the entrance, is 80 feet from street level.

It may be interesting here to note, that 350 original drawings were prepared by the office staff, in connection with the construction of this tramway.

During the year 1894 I obtained lengthened leave of absence from the duties of office, and, as I intended visiting Europe and America, Mr. W. J. Lyne, then Minister for Works, commissioned me to investigate the subject of light railways and electric tramways.

I left Sydney on May 18th, by the s.s. "Mariposa," for San Francisco, and returned *via* the Suez Canal, arriving in Melbourne by the s.s. "Himalaya" on December 16th, leaving for Sydney per express next day. As my leave extended to the end of the year, I took up my duties again on January 2nd.

Mr. T. R. Firth, M. Inst. C.E., was appointed acting Engineer-in-Chief during my absence.

Reports in connection with my trip have been furnished by me as follows:—

"Preliminary Report."	Ordered by the Legislative Assembly to be printed on		19th March, 1895.
"Railways."	do	do	1st May, 1895.
"Electric and other Tramways."	do	do	15th May, 1895.

H. DEANE.

(II.)

STATEMENT of expenditure on account of the under-mentioned Railways from the 1st January, 1894, to 30th June, 1895.

Head of Service.	Amount.			Head of Service.	Amount.		
	£	s.	d.		£	s.	d.
Bega to Eden	17	9	4	Milson's Point	105,235	12	10
Cootamundra to Gundagai	893	1	8	Marrickville—Burwood Road	79,964	9	1
Culcairn to Corowa	10,726	13	11	Nyngan to Cobar	20	11	8
Cootamundra to Temora	10,800	3	11	North Shore Railway	1,117	17	3
Forbes to Wilcannia	184	16	7	Narrabri to Moree	8,710	12	0
Goulburn to Wagga	7	16	5	South Grafton to Glen Innes	483	14	7
Goulburn to Cooma	4	9	4	Sydney to Wollongong and Kiama	2,333	2	1
Gundagai to Tumut	243	6	3	Tarago to Braidwood	140	4	10
Goulburn to Crookwell	70	6	10	Tenterfield to the Border	8	6	5
Homebush to Waratah	114	2	7	Tamworth to Tenterfield	86	19	2
Inverell to Glen Innes	5,237	16	0	Trial Surveys	9,584	14	7
Kiama to Nowra	13,996	16	3	Wagga to Tumberumba	569	14	8
Lismore to the Tweed	167,680	0	7				
Muswellbrook to Cassilis	19	5	0				
Molong to Parkes *via* Forbes	56,511	3	0	Total	474,763	6	10

(III.)

STATEMENT of expenditure on account of the under-mentioned Tramways from the 1st January, 1894, to 30th June, 1895.

Head of Service.	Amount.			Head of Service.	Amount.		
	£	s.	d.		£	s.	d.
Ashfield to Druitt Town	348	16	5	Military Road—Mossman's Bay	16	18	8
Balmain—Drummoyne	1	5	0	Merewether to the Beach	1	15	0
Balmain (Forest Lodge)	53	7	9	Newcastle—Merewether	1,570	1	3
Bondi to The Beach	3,905	11	9	Newcastle—Tighe's Hill	2,552	14	11
Five Dock Extension	15	13	2	Newcastle—City	9,914	7	8
Five Dock to Abbotsford	2,160	16	6	Newcastle—Adamstown	218	17	7
George-street Cable	6	6	3	Newtown—Cook's River	760	0	8
Hunter-street—Circular Quay	3	10	0	Paddington Extension	492	15	10
Hunter's Hill—Field of Mars	231	13	4	Redfern—Moore Park	33	11	4
Drummoyne—Field of Mars	15	1	1	Redhead to Belmont	5	5	0
Kensington Extension	228	5	4	Rose Bay	68	13	10
King-street to Ocean-street	84,439	16	0	Regent-street	600	12	0
Lane Cove Road	3,217	1	3	Yass Extension	807	6	10
Military Road	4,230	19	4				
Military Road to the Spit	456	7	4	Total	116,357	11	1

Harbours and Rivers and Water Supply.

(IV.)

REPORT OF THE ENGINEER-IN-CHIEF FOR PUBLIC WORKS.

I FORWARD herewith for the Minister's information reports from the Principal Assistant Engineers, dealing with Harbours and Rivers, Water Supply, and Sewerage Construction, together with statistical returns showing the expenditure on all the works completed or in progress.

Owing to the fact that the financial year now terminates in June instead of December, the period covered by the reports extends from 1st January, 1894 to 30th June, 1895, and their presentation has been somewhat delayed by the departmental changes, which took place shortly before the latter date.

It will be seen from the returns that the total expenditure for the eighteen months in the branches covered by this report was £843,591 17s. 1d.

Water Supply.

Of this sum, £105,599 0s. 7d. were absorbed by Water Supply works, the very large proportion (£99,125 15s. 1d.) being expended in country towns. Works were completed or in course of construction in Moss Vale, Dubbo, Nowra, Jerilderie, Nyngan, Parkes, Coonamble, Junee, Lithgow, and Armidale.

These ten towns have a total population of about 23,750, and as the schemes will have a capacity of about 3,284,000 gallons per day, or 96 gallons per head, it will be seen that an ample margin for a very considerable increase in population has been allowed.

In addition to these, schemes are in contemplation for the supply of Tamworth, Wellington, Gundagai, and Ballina, and a covered reservoir is about to be erected at the Centennial Park, which will have a capacity of 17½ million gallons.

Dredging.

The cost of the "Dredge Service" was £231,935 6s., of which £142,606 9s. 11d. were expended on excavation of silt, £13,221 19s. 10d. on landing silt and forming ground, £71,772 12s. 2d. on reclamation, dredging, and resumption of land, and the balance in providing new dredging plant and punts, and the conversion and repair of the old.

The quantity of material dredged was 9,808,706 tons, and it will be seen from the reports that the cost per ton compares very favourably with that of similar work in England, America, and the Continent of Europe, where labour is much cheaper, and the cost of repairs less.

The introduction of sand-pump dredging has been fully justified by results, the average cost per ton having been reduced nearly 50 per cent. The "Sigma" and "Rho" have been converted from grab to sand pump dredges, to enable the department to further extend this method where conditions permit.

The Newcastle Harbour, which suffered seriously from the vast accumulation of silt brought down by the floods of 1893, was again deepened in the following year, and is now in a satisfactory condition.

General Improvement of Harbours and Rivers.

An expenditure of £213,513 5s. 5d. has been incurred in the general improvement (other than dredging) of harbours and rivers. The most important works carried out are those on the Tweed River, Richmond River entrance, and Clarence River Heads.

At the Tweed, No. 5 wall was extended 4,869 feet, and Nos. 2 and 3 walls were commenced, 3,800 feet and 3,000 feet respectively being carried out with excellent results. The quantity of stone used was 67,195 tons, deposited at a cost of 2/0.23d. per ton.

The improvement works at the entrance of the Richmond River have progressed steadily. The south breakwater was extended 626 feet, and the northern training wall completed, enclosing an area of 63 acres, which it is proposed to reclaim.

The north breakwater, which has been repaired and made up, is now 1,678 feet in length.

The weight of stone used in the whole of the walls to 30th June was 347,842 tons, nearly one-third of which was deposited during the 18 months under review. The cost per ton was 4s. 5d.

At the Clarence River entrance, the south training wall was entended to a length of 11,067 feet, while at the north training wall the old structures were removed to low water, and 1,346 feet of new wall built.

The Court-house Rocks at Maclean have been removed, so as to give to 13 feet at low water.

Works of some magnitude have also been carried out at the entrance of the Bellinger River and at Trial Bay. At the former the wall has been extended 600 feet, and at the latter the breakwater was repaired and made up, and 90½ feet added to it.

In the Newcastle Harbour the lightship rocks were removed to 24 feet below low water, and the wool berths at the Queen's Wharf, also rock, were deepened. A channel, 100 feet wide, was excavated to a depth of 25 feet from low water at the entrance to the new basin, and additions made to the wharfage accommodation.

At Sydney general repairs were carried out on numerous wharfs, and new wharfs, totalling 919 feet in length, were constructed or nearly completed at Woolloomooloo Bay and Circular Quay.

The shoal off Shark Point was deepened to 28 feet below low water, 2,586 tons of rock being removed, and the rock-level was also lowered at Circular Quay, Pyrmont, and Garden Island Wharfs.

On the Garden Island Naval Station five two-storied houses for storemen and warrant-officers, and a complete suite of offices were erected and furnished. A timber store, spar shed, receiving shed, two shelters, and a store for inflammables were also erected; while a coal store, capable of holding 2,500 tons, and a dressing shed for the baths, were in progress.

The total expenditure was £47,451 17s. 1d.

On

On Spectacle Island two new magazines, 53 ft. x 27 ft., and 23 ft. x 20 ft., respectively, and minor buildings, were added.

A very considerable quantity of repairing and construction was done at the workshops on Cockatoo Island. They have proved themselves invaluable, especially to the Dredge Service, through the efficiency and despatch with which urgent repairs can be carried out.

At the Fitzroy and Sutherland Docks 196 vessels, having a tonnage of 159,587 tons, were docked during the eighteen months. The expenses were £4,054 2s. 11d., and the receipts £5,185 0s. 4d.

At Shea's Creek 353,514 cubic yards of material have been excavated from the canal north of Ricketty-street, and used for raising Crown land in that locality.

Cook's River has been deepened at the entrance to Shea's and Muddy Creeks, and Muddy Creek Canal was extended towards Beatie-street.

On the South Coast new wharfs have been erected at Wagonga and Narooma, and repairs and extensions have been carried out at Eden, Bermagui, Tathra, Nelligen, Mangrove Creek, and Nowra Wharfs, and Kiama Jetty.

In the North-west, 50 miles of the Darling River, between Walgett and Brewarrina, have been cleared of snags.

Flood Protection.

A very considerable amount of valuable work has been done in connection with flood protection in various parts of the Colony.

In the North Coast district, German Creek has been cleared, and the farms drained, the farmers paying a moiety of the cost. The Evans River has been widened at the Iron Gates, in order to enable it to carry off portion of the flood-waters from the Richmond River.

On the Clarence River, the flood embankment at Great Marlow levee has been repaired and strengthened, and the Ulster Lodge embankment and Alumny Creek dam have been constructed to protect Grafton from flood.

On the Macleay River a concrete dam was constructed at Clybucca Creek, to protect the farms from the backing up of salt water from the river.

On the Hunter River considerable expenditure was incurred in protecting with fascines and stone —the Horse-Shoe Bend—West Maitland. The High-street embankment was also repaired, and a dam above the town, which had been washed away, was replaced. The West Maitland levees were repaired by the Council, and the Oakhampton levees by the farmers, the Government paying a moiety of the cost in each case. The Government also contributed towards the cost of repair of protection works at East Maitland and Bolwarra.

Reclamation.

Reclamation of Crown land has been carried out in several places. At Stockton the training-wall was extended 1,600 feet, and 12 acres were reclaimed. Eighteen acres at the north end of Bullock Island were reclaimed from ballast discharged by vessels visiting the port.

Reclamation has also taken place at Shea's Creek, Lord's, and Bonnie Doon on Cook's River, and at Long Cove Creek, Rozelle Bay, Parramatta River, and other places in Port Jackson.

Sewerage.

An expenditure of £241,688 2s. 7d. took place on the sewerage and drainage of Sydney and country towns. In connection with the Western Suburbs sewerage—the importance of having the main outfall to Botany sewage farm completed has been steadily kept in view, as, without it, the rapid construction of the sub-mains was useless.

The outfall sewer itself has now been finished—and the main carrier through the farm is well advanced, so that on the completion of the eastern branch and sub-mains, which are also well advanced, the reticulation of a considerable portion of Marrickville, Petersham, and Leichhardt, comprising 1,600 acres of thickly populated areas, will become possible.

The drainage of the lowlying areas at Marrickville, 1,300 acres in extent, which will be raised and discharged into this branch, has not yet been commenced, but the survey and designs are ready for inviting tenders.

The first section of the main northern sewer which embraces the aqueducts across Johnstone's and White's Creeks, is in hand, and contract drawings are being prepared for the further sections into Annandale and Balmain.

The main outfall for the North Sydney sewerage has, with its branches, been completed from Long Bay to Mount-street, and the remainder is well advanced. The Blue's Point and Kirribilli Point branches have not yet been undertaken.

The sewerage of the Holterman Estate—and the district in the vicinity of Berry and M'Laren streets—comprising nearly 3½ miles of reticulation, has been completed, existing temporary outfalls having been utilised pending the completion of the permanent works at Long Bay.

A scheme for the drainage of Mosman was prepared, but no steps have as yet been taken for its inauguration.

The drainage of the Necropolis at Rookwood has been completed, the main drain discharging into Haslem's Creek, well clear of all populated areas, and in a good tide way.

At Parramatta no material advance has been made in the adoption of a scheme ; four alternative designs were, however prepared, in order that the comparative cost of various methods of disposal could be determined. No. 2 Scheme, designed on the partially separate system, and providing for the disposal of the effluent on the sewage farm, is favoured by the Department as the most economical, but the construction is in abeyance, pending a settlement with the council of the questions of the assessment of Government property and the control of the works after completion.

A storm-water channel was constructed at Clay Cliff Creek, and the Brickfield Creek Channel was extended.

In the Newcastle district, storm-water channels for the drainage of the Pasturage Reserve, and of Plattsburg and Wallsend are in progress, the work being carried out on the butty-gang system. The construction of the former, which varies in width from 60 feet to 110 feet, will involve the erection of six new bridges, which will be let by contract.

The

The serious difficulty for so long experienced at the Sandgate Cemetery by the existence of a water-bearing strata within a few inches of the surface has been quite overcome by the system of drainage carried out.

Storm-water channels at Rushcutter's Bay, Homebush Creek, Iron Cove Creek, Long Cove Creek, and Easton Park, Balmain, have been carried out or are in progress, while designs for others are in preparation.

Since the close of the financial year, most of the works enumerated have been considerably advanced. and a complete statement of their progress will be submitted as soon after the 1st July as possible.

C. W. DARLEY,
Engineer-in-Chief for Public Works.

(V.)

REPORT OF THE PRINCIPAL ASSISTANT ENGINEER FOR HARBOURS AND RIVERS.

I FORWARD herewith, for the Engineer-in-Chief's information, my report on the principal works carried out by this branch during the year 1894 and the first six months of 1895.

The usual classification is adopted, viz.:—

(*a*) Works for the Improvement, Maintenance, and Convenience of Navigation;
(*b*) Water Supply (gravitation or pumping);
(*c*) Works not comprised under the above heads;

dealing first with (*a*), and commencing at the northern boundary of the Colony.

H. R. CARLETON,
Principal Assistant Engineer, Harbours and Rivers.

12/10/95.

(*a*) North Coast District.

Tweed River.

Work was resumed on these works in June, 1894, and a total of 67,195 tons of stone deposited at a cost of 2s. 0·23d. per ton, extending the various walls 11,369 ft.

The total length of these walls is now 20,379 ft., with an output of 134,305 tons of stone, which cost 2s. 1·5d. per ton.

No. 5 wall was extended 4,869 ft., with an output of 38,273 tons, the total length of wall being now 14,239 ft. for 105,383 tons of stone.

No. 2 wall, commenced in August, 1894, was constructed for a length of 3,800 ft. with 8,418 tons of stone.

No. 3 wall, also commenced August, 1894, was constructed for a length of 3,000 feet with 20,504 tons of stone.

This work was done by day-labour, the stone having been procured from the quarry at Cave Point, and deposited on the No. 5 wall by trucks, and on the Nos. 2 and 3 by punts. The effect on the channel has been very beneficial.

Lavender Creek was cleared on two occasions, viz., in January, 1894, and June, 1895.

Snagging was done in Murdering Creek, and sundry repairs to wharfs were effected.

Byron Bay.

The narrow gauge railway on jetty was taken up and replaced with 70-lb. rails, 4ft. 8½ in. gauge. This, with repairs to jetty, replacing piles, repairing crane, boiler, and engine, and overhauling the moorings on two occasions, entailed an expenditure of £895.

Richmond River.

Improvement Works at Entrance.

South Breakwater.—This work was resumed in October, 1894 (nothing having been done since September, 1893), and 31,382 tons of stone were tipped, extending the breakwater 626 feet. The total is now 4,689 feet, for an output of 83,233 tons. A wharf and 20-ton crane were erected during June, 1895, to allow of larger stone being used in this breakwater in consequence of the tip-head having now reached a more exposed position. The wharf and erection of crane cost £837.

Northern Training Bank.—This work was completed in August, 1894, 37,697 tons of stone having been deposited during the year at a cost of £9,189, extending the wall 3,214 feet. This wall encloses an area of 63 acres below high-water mark, which is available for reclamation by a sand pump dredge when one can be spared.

North Breakwater.—Work on this breakwater was resumed in August, 1894, when arrangements were completed for bringing stone from Riley's Hill, the Pilot Point quarry having been abandoned. The whole of the stone deposited, 27,243 tons, was used to make the road to the breakwater good, and to repair and make up the breakwater, The cost was £7,416. The total length of this breakwater is 1,678 feet, with an output of 187,314 tons.

North Creek Guide Wall.—No. 1: This work was completed in May, 1894, 7,274 tons of stone being deposited, at a cost of £1,535. Nos. 2 and 3: From August to October, 1894, 4,633 tons of stone were placed in these walls, at a cost of £774.

Riley Hill Quarry.—92,485 tons of stone have been sent away since January, 1894, at a cost of 2s. 9·8d., making an output since the opening of the quarry of 164,103 tons, at 3s. 5·1d. The total stone delivered in all the walls from January, 1894, to June, 1895, was 108,229 tons, at a total cost of 4s. 9·8d. per ton, and the stone used from the commencement has been 347,842 tons, at an average cost of 4s. 5d. per ton. The stone still continues to prove of excellent quality and suitable for the work. All this work was done by day-labour.

North Creek Canal.—The dredge "Alcides" commenced work at the south end in December, 1894, and cut a channel 2,130 feet long, 60 feet wide, and 8 feet deep. The grab dredge "Delta" commenced at the north end, and cut a channel 2,200 feet long, 32 feet wide, and 5 feet deep. The material excavated

excavated was deposited on the banks. In addition to the dredging, a gang of men were employed excavating where the roots and stumps would have proved a serious obstruction to the dredges. They removed 5,528 cubic yards at a cost of 12·54d. per cubic yard, being slightly in excess of the cost of dredging.

Basin or Dock for Punts at Ballina.—This dock was completed, the sides being lined with stone from Riley's Hill quarry. The cost of the work, exclusive of dredging, was £442.

Wharfs at Wyrallah and Broadwater.

Contracts were let for these wharfs, and some of the piles driven.

Various small repairs to wharfs, jetties, &c., were also carried out.

Snagging has been done at the following places at the cost set opposite them:—

Locality.	Cost. £	s.	d.
South Arm	1,167	8	0
Bungawalbin Creek	209	15	5
North Arm	519	13	10
Emigrant Creek	22	13	10
Leycester Creek	283	6	2
Dungarubba Creek	229	0	0
Bingal Creek	198	14	5
Wilson's Creek	644	7	4
Terrania Creek	427	10	1
	£3,702	9	1

Clarence River District.

Clarence River Heads Improvements.

South Training Wall and Breakwater.—The training wall was extended 6,867 feet with 151,232 tons of stone. The total length is now 11,067 feet, 210,343 tons of stone having been used. The result of this work has been very satisfactory, there being now 30 feet of water alongside and ahead of this wall. The work of repairing the breakwater was begun in 1894, and 9,319 tons of stone were put in, but the repairs are not yet finished to the tip head where completed in 1890. The above work was done by contract, and cost £35,193.

North Training Wall.—The work of removing the old walls to low water and depositing the stone in the north training bank was begun by day labour in August, 1894, and 25,096 tons were lifted and placed in new wall at a cost, including preliminary work, of £3,057. 1,346 feet of new wall was built.

Removal of Court-house Rocks at Maclean to 13 feet at Low Water.—Operations were begun in November, 1894, and 4,585 tons of stone were removed at a cost, exclusive of lifting by grab dredge "Omega," of £1,115. The stone has been used for reclaiming a portion of the river frontage at Maclean by the Municipal Council.

Repairs to Wharfs.—Sundry repairs to wharfs were carried out at a cost, by day labour, of £631, and, by contract, of £275.

Woolgoolga Bay.

A cottage for the wharfinger was erected at a cost of £307.

A signal-mast was erected, costing £69, and repairs to jetty and crane were carried out at a cost of £70.

Macleay River District.

Coff's Harbour.

A cottage for wharfinger was erected at a cost of £364 and a flagstaff, £87. Engine and boiler on jetty were also repaired.

Bellinger River.

Training Wall at Entrance.—600 feet of this wall was constructed; 28,603 tons of stone having been deposited. This work is being carried out by contract at a cost of £5,618, and is having a very beneficial effect on the water in the channel. Mooring piles were driven alongside the wall at a cost of £52.

A wharf at Cahill's was constructed at a cost of £143.

Fernmount, Bellinger Heads, and Raleigh wharfs were repaired.

Nambucca River.

A wharf was constructed at Walsh's, Taylor's Arm, at a cost of £59.

Macleay River.

A wharf and shed were constructed at East Fredericton at a cost of £314. An extension was made on the Commandant Hill wharf at a cost of £136; wharf at Seven Oaks was erected, costing £188. An extension to Central Kempsey wharf. Additions to Kinchela passenger wharf and approach to Nelson's wharf were also constructed.

Trial Bay Harbour Works.

34,228 tons of stone were deposited in the breakwater, which was extended 90½ feet. The heavy weather in January, 1895, caused a settlement of 44 feet of the tip head, which accounts for the slow progress made. The cost of the stone was 2s. 10·82d. per ton. The total length of breakwater is now 487½ feet.

In addition to the breakwater works, the prison buildings, quarters, &c., have been kept in repair.

Newcastle District.

Port Macquarie.

The work of protecting a portion of the foreshore from the Government wharf seawards was completed at a cost of £39.

Manning

Manning River.

North Training Wall.—A contract for this work was let and work started in March, 1895, and the contractor laid down a railway from the quarry at Crowdy Head, a little over 4 miles, and opened up the quarry by June 15th, when the first stone was tipped. The output to the end of June was 512 tons.

Wingham wharf was repaired, by replacing some of the piles, at a cost of £134.

Cundletown wharf was extended 10 feet into the river at a cost of £302.

Croki wharf was redecked at a cost of £74.

Port Stephens.

The Myall River, between Bullahdelah and Broadwater, was snagged at a cost of £58. The channels, from Myall Point to Bungwall and from Schnapper Island to the mouth of the Karuah, were marked at a cost of £50. A contract was let for repairs to Booral wharf, but the work was not completed.

Newcastle Harbour.

Removing Lightship Rocks.

This work was completed in March, 1895, the rock being excavated to 24 feet below low water to 100 feet south of the line of fairway. The rock was broken up and lifted by the rock breaker "Poseidon," and the cost, January, 1894, to June, 1895, was £3,196.

Deepening Wool-berths.

In March, 1895, the "Poseidon" started work in front of Dalgety's and Gibbs, Bright, & Co.'s woolsheds at the Queen's Wharf, and up to the end of June has crushed an area of 430 ft. x 70 ft. and an average of 2 feet deep. The cost, which included a general overhaul, was £265.

Removing Rock at entrance to New Basin.

This channel is being excavated 100 feet wide, to a depth of 25 feet at low water. Rock removed, 13,680 tons, at a cost of £3,146.

A new ballast jetty was erected, and another lengthened, at a cost of £508.

A ballast jetty and four dolphins were constructed at Stockton at a cost of £945.

A portion of the Queen's Wharf, damaged by the s.s. "Crown of Arragon," was reconstructed at a cost of £302. Stockton boat harbour was repaired at a cost of £62.

The pumping station in connection with the hydraulic cranes and the electric lighting plant at Bullock Island, which were erected and worked by this Department from 1877 till the beginning of June, 1895, were then handed over to the Railway Commissioners.

A survey of the entrance to Newcastle Harbour in connection with the proposed improvements was made at a cost of £323.

In addition to the above-mentioned works, the Newcastle office supervised the contract for the construction of the valves, hydrants, &c., required for the country towns water supplies; £2,986 worth of valves, &c., were tested and passed during the year. Boilers and engines for Jerilderie water supply and two portable boilers for Trial Bay were also constructed under the supervision of this office. All the coal used on dredges, tugs, and works in the northern rivers was purchased and shipped. A large amount of work in connection with repairs to dredges, tugs, and punts was carried out in the workshops at Bullock Island.

Sydney and South Coast District.

Nepean River.

This river was cleared of snags for 2½ miles above the railway bridge. A reef of rocks 1½ mile above the bridge was also removed. These works cost £876.

Sydney Harbour.

The four-fathom shoal off Shark Point was deepened to 28 feet. The rock removed was 2,586 tons, costing £2,517.

The south-eastern corner of Circular Quay was deepened by the removal of 1,260 tons of silt and 1,050 tons of rock.

Further deepening of the berths at the eastern and western piers of Pyrmont wharf was carried out, 1,632 tons of rock, clay, &c., being removed.

A wharf approach and office for wharfinger were erected at White Bay, Balmain, at a cost of £1,495.

The following wharfs were repaired:—Blackwattle Bay, Double Bay, Clark Island, and Watson's Bay.

Landings for dredge service tugs and punts were constructed at Darling Island.

Repairs were also carried out to Norddeutscher-Lloyd wharf and shed, Neutral and Mosman's Bay waiting-room, Manly Co-operative Ferry Company's shed, Orient S.N. Company's wharf, and Messageries Maritimes Company's wharf.

Woolloomooloo Bay Wharfs.—A portion of the new wharf 50 feet long, known as No. 2 berth, was constructed on the eastern side, and a retaining wall was erected along the back, and 5,173 tons of earth filling were deposited behind it free of cost. Piles for the back rows of new berths were also driven for a length of 400 feet.

Circular Quay, Western Side.—The old wharf in front of the Naval stores, the shed on old No. 1 jetty, and 150 feet of the Norddeutscher-Lloyd Company's shed were removed, and the useful material stored. 24,939 tons of filling has been deposited at the back of wharf site free of cost. 518 cubic yards of masonry retaining wall has also been built. A timber wharf, 409 feet long, at No. 3 or northern berth, was completed in February, 1895, costing £6,856. No. 1 berth, 460 feet long, was commenced in March, 1895, and is now nearly completed; cost to date, £4,494. 799 tons of rock, clay, &c., was removed from the front of No. 3 berth.

Parramatta River.

The fascine embankment and flood-gates at Parramatta were repaired; wharfs at Rydalmere, Newington, Dundas, Ryde, Ermington, Cabarita, Abbotsford, and Cockatoo Island were repaired, and a boat landing added to Rydalmere wharf.

Shea's

Shea's Creek Canal.

This work was recommenced in January, 1894, after a stoppage of about six months. A railway line was constructed in April, and worked with horses till November, when a locomotive was purchased. The whole of the low-lying ground belonging to the Government north of Rickety-street on the western side has been raised to formation level. The quantity of material excavated was 353,514 cubic yards from the portion of canal above Rickety-street, both in making the canal 10 feet deep and reducing the banks to formation level. A drain was cut to divert the creek water, and the excavation below water level was removed dry, the soakage being removed by pumping.

The work was considerably delayed by the action brought by Mr. McNamara against the Department.

An embankment and drain have been constructed round the resumed land below Rickety-street.

Cook's River.

The dredge "Omicron" has been employed cutting a channel across Cook's River at the mouth of Shea's Creek, and deepening the entrance to Muddy Creek. The silt having been landed at Lord's and Bonnie Doon.

Muddy Creek Canal.

This work is being extended towards Bestic-street. The channel has been excavated to 4 feet below low water, the work having been done dry by diverting the creek water and pumping out the soakage. Fascine banks have been constructed on each side of the extension.

1,782 rods of wire fencing have been erected on the boundaries of the Government land, and for the purpose of protecting the grassed slopes.

Wharf at Wagonga.

A wharf and shed were constructed at Wagonga.

Wharf at Narooma.

A wharf was constructed at Narooma, and 2-ton hand crane erected on it.

Repairs were carried out to Shellharbour Breakwater, Bermagui Wharf, Tathra Wharf, Nelligen Wharf, boat landing Mangrove Creek Wharf, Nowra Wharf, and Kiama Harbour Jetty.

Wharf at Eden, Twofold Bay.

280 feet of this jetty was reconstructed and a double line of rails laid along the whole length, at a cost of £1,430 to date.

Darling River.

Fifty miles of this river was cleared of snags between Walgett and Brewarrina.

Fitzroy Dock Establishment, Cockatoo Island.

The following is a list of work carried out:—	£	s.	d.
General repairs to dredge plant	33,866	10	0
New launch for dredge service	3,600	19	4
New buckets for "Poseidon"	248	7	1
15-ton floating crane—Repairs	336	13	10
5-ton do do	199	18	10
Woodwork, &c., for Head Office	359	17	7
Byron Bay Jetty—New boiler	147	7	5
Docking H.M. Ships	2,499	7	11
Do Merchant Ships	384	6	11
Offal barge—Repairs	331	19	2
N.T.S. "Sobraon"—General repairs	1,022	18	0
Torpedo boat "Acheron"—Repairs	256	7	8
Richmond River Improvement—Two new punts, repairs to locomotive, punts, &c.	3,201	2	0
Trial Bay Works—General repairs	264	16	11
Shea's Creek Works—Repairs to locomotive, &c.	85	1	6
Reclamation Works—Making pipes, punts, &c., and repairs	2,257	7	11
Garden Island—New steel boiler, anchor and torpedo racks, 9 trolleys, hoisting engine and traversing gear, torpedo test tank, jigger hoists, &c.	1,545	0	4
Spectacle Island—Magazine, &c.	169	3	9
Centennial Park Reservoir—Concrete test, &c.	105	19	6
Wollongong punts—Repairs	534	17	6
Wharf Pontoons—Repairs	93	13	3
Steam Launch "Leila"—Wages and repairs	941	15	9
Darling Harbour Wharf and Island	460	11	6
Water Supplies—Stand-pipes, &c.	255	10	11
S.S. "Golden Fleece" (Mines Department)	103	1	6
Sundry small works	1,436	9	5
	£54,709	5	6

STATEMENT of Vessels docked in the Fitzroy and Sutherland Docks from January, 1894, to June, 1895

	Sutherland Dock.	Fitzroy Dock.	Total.
Number of vessels	84	112	196
Tonnage	115,717 tons.	43,870 tons.	159,587 tons.
Actual expenses	£3,070 11s. 7d.	£983 11s. 4d.	£4,054 2s. 11d.
Amount received	£4,067 17s. 8d.	£1,117 2s. 8d.	£5,185 0s. 4d.

(*b*) Water Supply.

Moss Vale.—This scheme, consisting of a concrete dam across the Wingecarribee River, forming a storage reservoir from which the water is pumped 1½ miles to a service reservoir commanding the town, was completed with the exception of a stone apron to the weir, now in hand. The population is about 1,300, and the scheme will supply 214,000 gallons per day.

Dubbo.—These works were completed. Naturally filtered water is pumped from a large well to a reservoir close to the town and distributed in the usual manner. The population is about 4,300, and 300,000 gallons per day can be supplied.

Nowra.—These gravitation works, which embrace a concrete weir across Good Dog Creek, from which the water is conveyed 7½ miles to a service reservoir commanding the town, were completed. The population is about 2,150, and the capacity of the scheme 330,000 gallons per day.

Jerilderie.—This scheme was completed. The water, impounded by a timber and earthwork weir across the Billabong Creek, is pumped into an elevated tank in the town and thence distributed. The population is about 700. 165,000 gallons of water can be supplied daily.

Nyngan.—These works, consisting of a timber and earth dam across the Bogan River, from which the water is pumped 2 miles to an elevated tank in the town and distributed, were completed. Population, about 1,100. Capacity of supply, 165,000 gallons per day.

Parkes.—These works, which consist of a well close to the Goobang Creek, from which the water is pumped 2 miles to a reservoir in the town and thence distributed, were completed; but an exceptionally dry season having proved that, in order to provide against droughts, it will be necessary to increase the filtration area by sinking deeper and by a horizontal drive These works are being proceeded with. Population, 2,800. Capacity of pumps, 240,000 gallons per day.

Coonamble.—The town will be supplied from the artesian bore, the water from which will be cooled and aerated by spraying into an elevated tank, from which it will be distributed. The works are nearly completed. Population, 1,200.

Junee.—The works in connection with this gravitation scheme are approaching completion. They consist of a storage reservoir formed by a concrete dam across the Bethungra Creek, from which the water is conveyed in pipes to a service reservoir commanding the town. The length of main pipe is about 20 miles, and its discharging capacity 350,000 gallons per day The population is 2,000.

Lithgow.—This is a gravitation scheme, and is nearly completed. A curved concrete dam is constructed across Farmer's Creek, about 3½ miles from the town to which the water is conveyed direct. Capacity of main pipe, about 800,000 gallons per day. Population, 4,200.

Armidale.—These works, which consist of a storage reservoir, formed by a concrete dam across Dumaresq Creek, whence the water will be brought by a main 8 miles long to a service reservoir in the town. Population, 4,000. Discharge of main, about 520,000 gallons per day.

Tamworth.—This was intended to have been a pumping scheme, but surveys are being made for a proposed gravitation supply, which will probably be carried out. The pipes necessary for the reticulation have been provided.

Supplies for Wellington, Gundagai, and Ballina have also been under consideration.

Plans were got out for a reservoir for Sydney, in the Centennial Park, to take the place of the Paddington Reservoir, with the object of having a supply in the city in case of an accident to the canal or mains. It is to hold 17½ million gallons, and to be constructed of brick with coke concrete roof.

Hunter River District Water Supply.

Repairs to Intake Works.—The river bank and the end of tunnel, which were washed away during the 1893 flood, were repaired. The bank was made up with fascine work, and a new tunnel-face with concrete foundation constructed. Piles were driven to carry the suction-pipes out to the original staging in the river. Cost, £641.

Duplicate Suction-pipe.—A duplicate suction-pipe is being laid from the river to the pumping station. Up to 30th June all the pipes were delivered, and 800 feet of the main laid. Expenditure to date was £2,319.

Country Towns Water Supplies—Expenditure from 1st January, 1894, to 30th June, 1895.

	£	s.	d.
Armidale	20,587	19	4
Balranald	19	2	5
Ballina	209	11	5
Bathurst	20	3	5
Coonamble	3,783	2	5
Dubbo	2,252	10	9
Deniliquin	912	5	9
Forbes	11	5	6
Goulburn	348	11	10
Gundagai	69	19	9
Hunter River District water supply	2,258	2	4
Jerilderie	2,757	4	2
Junee	29,669	0	8
Lismore	825	17	11
Lithgow	6,925	7	10
Moss Vale	4,338	11	3
Moama	562	8	3
Manly	3,262	7	3
Nyngan	4,997	1	6
Nowra	2,134	16	1
Orange	4	19	4
Parkes	1,266	1	0
Richmond	770	0	9
Tamworth	10,874	3	10
Wentworth	19	14	2
Wellington	9	18	3
	£98,885	7	2

(*c*) Works not included under (*a*) or (*b*).

Richmond River.

Clearing and Draining German Creek.—This work consisted of clearing the creek and the excavation of a drain 110 chains long, for the purpose of draining the adjacent farms. The cost was £152, half of which is to be repaid by the farmers interested in three yearly instalments.

Widening and Deepening Evans River at Iron Gates.—This work consists in widening the channel for a length of 750 feet to a bottom width of 250 feet, at a depth of 3 feet below low water, for the purpose of carrying off a portion of the flood waters of the Richmond River. The cost of the work done to 30th June was £536.

Clarence River District.

Great Marlow Levee, Clarence River.—This work consisted in repairing and strengthening flood embankment on the left bank of river, opposite Elizabeth Island. The cost was £2,893, which included 20,000 cubic yards of an additional earthwork, and fascines and the protection, about 400 feet lineal, of river bank, with a stone dyke and fascines.

Ulster Lodge Embankment.—This consists of two earthwork dams to protect Grafton from flood. They are carried up to the 24-feet flood level, and cost £425.

Alumny Creek Dam.—This is an earthwork dam and roadway, constructed to protect Grafton from flood. It cost £889.

Macleay River District.—A concrete dam was constructed at Clybucca Creek, at a cost of £393, for the protection of the farms against the backing-up of salt water from the river.

Newcastle District.

Hunter River Flood Protection.—The work of repairing with fascines and stone the river bank at Horseshoe Bend, West Maitland, which had been washed away by the March, 1893, flood, was satisfactorily completed. The amount expended, January, 1894, to 30th June, 1895, was £5,708, the total cost of the work being £8,707. High-street embankment was repaired after the February, 1895, flood, by repuddling at each side of the timber; work cost £110. A dam was constructed at Cummins', above West Maitland, in place of one washed away by the 1895 flood, at a cost of £356. The West Maitland levees were repaired by the local Council, at a cost of £443; the Department contributed a moiety. The Oakhampton levees were repaired by the farmers interested, on similar terms. The Department contributed £51 towards the repairs to embankment at East Maitland, the work being carried out by the Council. Extensive repairs were effected to the Bolwarra levees by the land owners, at a cost of £1,817, towards which the Government contributed £500.

Clearing Wallis Creek.—The work of removing logs and other obstructions from Wallis Creek was commenced, and good progress made, in June, 1895. Sixty men were employed, and £84 expended. This work is required for sanitary purposes and for the better escape of water in flood time.

Reclamation Works, Stockton.—The training wall was extended 1,600 feet, with 14,148 tons of stone ballast and 1,561 tons of clay deposited by lighters. Total cost, £1,324. About 12 acres were reclaimed.

Reclamation, North End Bullock Island.—101,402 tons of ballast was discharged at the Ballast Jetties from 250 vessels, averaging 637 tons per vessel. This ballast was used for reclaiming Government land, about 18 acres having been reclaimed. Cost, £1,343.

Eight pontoons, for reclamation work, were constructed at a cost of £522.

Surveys for flood outlets on the Hunter River were carried out at a cost of £403.

About 19 acres were reclaimed at north end of new basin, Bullock Island, and at back of hydraulic engine-house.

Naval Station, Garden Island.

Naval and Victualling Stores.—These buildings were completed early in 1894, and were fitted up at a cost of £2,445.

Houses for Storemen and Warrant-Officers.—Five two-storied houses were erected in blocks of two and three together of brick, faced with white pressed bricks with sandstone dressings, the cost being £3,167.

Office Buildings for Officers.—This is a two-storied building of brick, faced with white pressed bricks and sandstone dressings, roofed with tiles, containing 13 rooms, and has a clock turret terminating in a stone dome 64 feet from the ground. In the turret is an eight-day clock fitted with striking gear. It has 4 dials, 4 ft. 6 in. diameter, 45 feet from the ground, and is to be illuminated with electric light. The cost of building was £5,463 and of the clock £244.

Additional Offices.—An additional block of offices containing four rooms was also erected of red brick and roofed with red tiles, at a cost of £668. The offices were furnished and fitted with a micro-telephonette installation, at a total cost of £583. Wrought-iron gates and grilles were fitted to 13 openings in paint and coal stores, at a cost of £155. A timber store, spar shed, and anchor racks were erected at a cost of about £500. A receiving shed 100 ft. x 30 ft., and two shelters on the wharfs, were erected at a cost of £618.

Store for Inflammables.—A store 65 ft. x 32 ft. of red brick with stone dressings was erected, the floor is paved with Val de Travers asphalt. The cost was £833.

Coal Stores.—A contract was let for the erection of stores to hold 2,500 tons of coal, the building is of red brick with stone dressings and floor of concrete. The price is £1,997, but the work is not yet completed.

Dressing sheds to swimming baths are being erected by contract at a cost of £353. The baths were deepened and foundation put in for retaining wall by day labour.

180 tons of rock were removed from front of wharf, making the depth at low water 28 feet nearly.

Spectacle Island.

New Magazines.—An ammunition store 53 ft. x 27 ft. and a dry gun cotton store 23 ft. x 20 ft. of red brick with stone dressings, paved with Val de Travers asphalt laid on concrete, were erected at a cost of £1,125.

Furnishing offices, new laundry building, workshops for armour, and new fencing, and sundry repairs to quarters were carried out at a cost of £596.

Six new lightning conductors were placed on the various buildings, and sundry alterations and repairs were done to the quick-firing magazine at a cost of £138.

Repairs

Repairs to dockmaster's residence, Cockatoo, and engine drivers cottage were carried out for £75.

Site of drill hall at Fort Macquarie was enclosed with á 6-foot picket fence.

A waiting room with parcel office for the use of H. M. Navy was erected near the Man of War Steps at a cost of £380. The building is of wood with tiled roof.

A shelter for licensed watermen was erected at Fort Macquarie of wood on brick and concrete foundations, roofed with tiles, costing £295.

Reclamations in Sydney District.

	£	s.	d.
Long Cove	5,629	1	9
Rozelle Bay	2,131	0	9
Neutral Bay and Careening Cove	487	0	0
Tarban Creek	185	0	0
Homebush Bay	1,821	0	0
Callan Park	311	0	0
Doll's Point	53	0	0
Clarke Island	249	0	0

Work was done at each of the abovementioned reclamations, building retaining walls, landing slit, &c., at the cost set down opposite each, in addition to the cost of work done by suction pump dredges.

Surveys, Soundings, and Borings.

Complete surveys were made of Clarke Island, Pitt Town Bottoms, Part of White Bay, Spectacle Island, the Clarence River, for a length of 3 miles including Freeburn Island, and for one and a half miles above and below the town of Lawrence; Newcastle Harbour, from Stockton to Fullarton Cove, Bellambi Haven, Port Kembla, part of Point Perpendicular at Jervis Bay, Man of War Steps at Farm Cove, part of Long Cove, and sixteen wharf surveys in the Sydney district. The resumed land at Shea's Creek was permanently marked as well as the land resumed for obelisks at Vaucluse, and the land required for Rozelle Bay reclamation.

Borings were taken at Tamworth and Parkes, on proposed sites for wells for water supplies, at Marrickville and Tempe, in connection with the proposed Marrickville drainage scheme, at the west side Circular Quay, and at White Bay in connection with proposed new wharfs, and at Careening Cove and Neutral Bay in connection with law suits at those places.

One hundred and eighty-one cases of application for leave to reclaim and for special leases were examined and reported on; soundings and borings for the purpose of laying down reclamation limit lines were taken at Darling Point, Macleay Point, Rushcutters Bay, Double Bay, Camp Cove, South Head, Watson's Bay, Parsley Bay, Vaucluse Bay, Bottle and Glass Point, Shark Beach, Berry's Bay, and Drummoyne, representing a coast line of 7 miles.

H. R. CARLETON,
Principal Assistant Engineer, Harbours and Rivers.

LIGHTHOUSES on the Coast of New South Wales.

Locality.	Miles visible.	Height in feet above sea.	Description of Light.	Light-house constructed of	Quarters. No. of Keeper's houses.	Quarters. Constructed of	Cost of construction.	Cost of Repairs. Lighthouse.	Cost of Repairs. Quarters.
							£	£	£
Fingal Head	8	...	Fixed dioptric ...	Brick ...	...	Brick ...	4,357	...	...
Richmond River ...	10	...	2–4th order dioptric white, fixed	,, ...	...	,, ...	4,112	...	...
Clarence Heads ...	10	...	4th order dioptric white, fixed..	,, ...	...	,, ...	1,097	...	...
South Solitary ...	18	188	1st order dioptric, revolving white.	Concrete	...	Concrete	31,259	...	475
Smoky Cape ...	27	450	1st order dioptric, triple flashing white.	,, ...	...	,, ...	12,400	...	...
Tacking Point...	12	...	4th order dioptric...	Brick ...	...	Brick ...	4,000	...	...
Crowdy Head...	...	...	4th order dioptric fixed white showing red over Mermaid Reef.	,, ...	...	,, ...	4,365	...	...
Sugarloaf Point ...	22	...	1st order dioptric revolving white, with subsidiary green light over Seal Rocks.	,, ...	...	,, ...	18,973	...	...
Port Stephens ...	17	126	Catoptric revolving white and red.	Stone ...	...	Stone ...	5,900	...	79
Nelson Head ...	...	...	Catoptric fixed white ...	.....	...	.....	.....	...	...
Nobby's, Newcastle ...	18	115	Catoptric fixed white ...	Stone ...	3	Brick ...	4,465	...	...
Barranjoey ...	15	371	2nd order dioptric fixed red ...	,, ...	...	Stone ...	16,400	...	...
"Hornby," Port Jackson ...	15	60	Catoptric fixed white	,, ...	...	,, ...	3,133	...	30
"Macquarie," Port Jackson...	21	346	1st order dioptric revolving white electric.	,, ...	...	,, ...	19,620	...	...
Wollongong ...	10	56	4th order dioptric fixed white...	Iron	...	.....	2,251	...	...
Kiama ...	8	...	4th order dioptric fixed green...	Brick ...	...	.....	.....	...	...
Shoalhaven ...	8	...	Fixed red ...	.....	...	.....	801	...	...
Cape St. George...	18	...	Catoptric revolving red, white, and green.	Stone ...	...	.....	4,363	...	...
Ulladulla...	16	...	Fixed white and green...	Iron.....	...	Brick ...	5,517	...	...
Montague Island ...	21	262	1st dioptric fixed and flashing white.	Granite..	...	.....	22,304	...	...
Twofold Bay	7	140	Catoptric fixed red ...	Wood ...	...	Wood ...	1,426	...	...
Green Cape...	19	144	1st order dioptric, revolving white.	Concrete	...	Brick ...	19,338	...	...
Gabo Island ...	17	179	1st catoptric, fixed white...	.....	...	.....	.....	...	...

(VI.)

RETURN of Public Works carried on by Harbours and Rivers Branch from 1st January, 1894, to 30th June, 1895

Work, and where situated	Whether Constructing or under Repair	Fund from which the Expense is defrayed	When Commenced	If Finished, actual amount of Expenditure	If Unfinished, amount of Expenditure to 30 June 1895	Amount expended from 1 January, 1894, to 30 June 1895
				£ s d.	£ s d.	£ s d.
WATER SUPPLY—						
Sydney	Constructing	Loans	1880	.. ...	2,277,498 12 2	1,289 10 2
Providing Country Towns	,,	Loans & Con Rev	1879	.	927,570 0 1	99,125 15 1
Western Suburbs	,,	Loans	1887	159,230 14 5	...	a3,863 7 10
Reservoir, Potts' Hill	,,	,,	1888		106,991 9 2	678 4 3
Laying Second Pipe Line between Potts' Hill and Crown street	,,	,,	,,	.	159,725 7 9	247 4 9
Centennial Park Reservoir ..	,,	,,	1895		394 18 6	394 18 6
DREDGE SERVICE—						
Excavation of Silt by Dredges ...	Annual Service	Con Rev	1893	89 880 16 6		2,803 5 11
,, ,, .. .	,,	,,	1894-5	. .	139,803 4 0	139,803 4 0
Additional Dredge and Punts for Sydney	Constructing	Loans	1879		70,113 18 2	b .
Tugs and Punts for Dredge Service .	Annual Service	Con Rev	1893	2,150 14 6		36 9 6
,, ,, ,,	,,	,,	1894-5	. . .	2,511 19 11	2,511 19 11
Dredge Plant for Richmond and other Northern Rivers ...	Constructing	Loans	1883		24,998 7 10	b .....
Dredge and Punts for Myall River	,,	,, ..	1888	.	8,002 11 9	158 16 2
Appliances for Reclaiming Land by Sand Dredges	,,	,,	1889		55,199 8 7	b ... ...
Dredge and Plant for service first at Nambucca	,,	,,	1890		7,991 18 7	b
Landing Silt and forming Ground	Annual Service	Con Rev ..	1893	7,540 16 11	...	b ... .
,, ,, ,,	,,	,,	1894-5	.	13,221 19 10	13,221 19 10
New Boilers and Alterations to Hull and Engines, Dredge "Samson"	,,	,,	1893	3,012 10 9		42 12 11
Reclamation and Dredging, including cost of resumption of Land ...	Improving	Loans	,,	.....	95,998 0 2	71,772 12 2
Conversion of Grab Dredge "Sigma" into a Sand pump Dredge	Constructing	,,	1895		1,579 9 9	1,579 9 9
Dredge Plant for Sydney Harbour	,,	,,	1890	4 15 10		4 15 10
SYDNEY DISTRICT—						
Completion of Darling Harbour Wharf, including Compensation for Land, &c	Constructing	Loans	1881	..	474,866 19 10	1,297 14 4
White Bay Reclamation	Improving	Loans & Con Rev	1886		12,249 14 5	b
Circular Quay Improvements	Constructing .	Loans	1888	. .	72,692 1 11	5,079 15 5
Woolloomooloo Bay Improvements	,,	,,	,,	..	1,890 5 4	b
Reclamation and Dredging Cook's River and Shea's Creek . ... ,	Improving	Loans & Con Rev	1887	.....	101,467 8 5	b . .
Admiralty Wharf, Woolloomooloo ..	Constructing	Loans	1889	.	1,490 15 1	b
Long Cove Reclamation . .	Improving	Loans & Con Rev	1890		40,397 4 8	6,710 12 7
Naval Stations, Garden Island	,,	Loans	1884	. .	295,984 14 11	47,451 17 1
Sea Wall, Coogee Bay	Constructing	Con Rev	1890		4,100 17 6	b
Rebuilding Stone Dyke wall, Rushcutters' Bay	,,	,,	1889	.	3 799 19 9	b
Reclamation, Careening Cove and Neutral Bay	Improving	Loans	1890	..	11,297 19 5	1,007 15 4
Improvements, Cowper Wharf, Woolloomooloo Bay	,,	,,	1889		6,949 12 3	b ...
Cargo Shed, Woolloomooloo Bay .	Constructing	Con Rev	1891		2,903 4 3	b .. ..
Construction, Jetties, foot of Erskine street	,,	Loans	,,		8,217 6 9	b ..
Repairing Wharf, west side Circular Quay ...	Repairs	Con Rev	1892	1,204 1 2	.	b
New Jetty and Shed, Circular Quay, and extending old A S N Co's berth	Constructing	Loans .	,,		13,904 8 2	10,033 16 11
New Shed, Woolloomooloo Bay	,,	Con Rev	,,	1,587 2 10	...	b .
Balmain Waiting-room, Erskine street, New Ferry	,,	,,	1893	500 0 0	...	29 4 4
Extension of Cargo Shed, western side Circular Quay	,,	,,	,,	369 8 4	..	b
Wharf, White Bay ...	,,	Loans	1894		1,583 12 4	1,583 12 4
Shelter Shed, and Fencing Drill Shed, Fort Macquarie	,,	Con Rev .	,,		452 18 1	c452 18 1
Waiting room, Neutral Bay Wharf	,,	,,	1893	. . .	97 0 3	97 0 3
Goods Shed, eastern side Circular Quay	,,	Loans	1895		1,411 2 5	1,411 2 5
Wharf, eastern side Woolloomooloo	,,	,, ..	,,	.	1,989 11 1	1,989 11 1
Fencing, &c Cowper Wharf	,,	Con Rev	1894	... ...	178 14 6	178 14 6
HUNTER RIVER AND NEWCASTLE DISTRICT						
Wharf and Shipping Appliances, Newcastle, including Steam Cranes, Newcastle Wharf	Constructing & improving	Loans & Con Rev	1858		319,344 17 3	9 457 0 8
Protection of Banks, Hunter River, at West Maitland .	Constructing	Con Rev	1866	.	41,331 16 1	b ...
Expenses, Special Services, Tugs unconnected with Dredging, and for Rocket Apparatus, Newcastle	Annual Service	,,	1893	1,194 1 4	...	637 11 3
,, ,, ,,	,,	,,	1894-5		1,091 5 2	1,091 5 2
Removal of Rocks, Newcastle Harbour	Improving	Loans	1858	...	18,576 10 4	b ...
Repairs, Newcastle Wharfs	Repairs	Con Rev	1887		12,890 11 2	969 19 6
,, Northern Breakwater, Newcastle ..	,,	Loans & Con Rev	1883		9,636 17 11	b ...
Towards subsidising Flood Embankment, East Maitland	Improving	Con Rev	1892		674 1 2	51 13 6
Oakhampton Embankment	Constructing	,, ..	1893		129 15 0	127 13 9
Jetty at Stockton	,,	,,	,,		252 2 8	b ...
Reclamation, North Harbour, Newcastle	Improving	Loans	1894	...	1,677 11 4	1,677 11 4
West Maitland Embankment, Flood Damages	Repairs .	Con Rev.	1893	...	562 3 11	562 3 11
Expenses Rocket Apparatus, Newcastle	Improving	,,	1894-5	. .	457 6 0	457 6 0
Stockton Ballast Jetty	Constructing	,,	1894	.	538 3 3	538 3 3
Wharf Site, Bolwarra and Largs, Hunter River	,,	,,	1893	...	27 1 6	27 1 6
LAKE MACQUARIE DISTRICT—						
Improvements at Entrance	Improving	Loans & Con Rev	1877	..	92,583 13 1	188 12 0
CLARENCE RIVER DISTRICT—						
Improvements at Heads	Constructing & improving	Loans & Con Rev	1862	....	265,850 2 7	38,573 5 7
Woolgoolga Bay Jetty	Constructing	Loans	1889	..... .	13,487 16 10	88 9 7
Coff's Harbour Jetty	,,	,,	,,	. . ..	12,596 12 8	b ..
,, Repairs	Repairs	Con Rev	1893	...	611 12 8	124 8 11

(a) Paid from Vote for Potts Hill Reservoir (b) No expenditure, 1894 5 (c) £5? 18s 1d paid from Vote for Incidental Expenses

Public Works carried on by Harbours and Rivers Branch—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895
				£ s. d.	£ s. d.	£ s. d.
CLARENCE RIVER DISTRICT—*continued.*						
Removal of Argyle Reefs, South Arm	Improving	Loans	1889		2,990 1 9	122 9 7
Removal of Rocks, South Arm	,,	Con Rev.	1892	1,021 0 8		*a*
Wharf, Lower Goodwood Island	Constructing	,,	,,	47 4 9		*a*
New Dredge for Clarence River	,,	Loans	,,	22,115 15 4		*a*
Removal of Rocks, Lawrence	Improving	Con. Rev.	1893	129 18 3		*a*
,, Maclean	,,	Loans	1894		1,246 11 2	1,246 11 2
Wharf, Woodfordale	Constructing	Con. Rev.	1895		19 7 0	19 7 0
Erection of Flagstaff and supply of Flags Coff's Harbour and Woolgoolga Bay Jetties	Erection, &c	,,	1894		69 5 5	69 5 5
Wharfinger's Cottage, Woolgoolga Bay	Constructing	,,	1895		287 3 6	287 3 6
,, ,, Coff's Harbour	,,	,,	,,		313 11 10	*b*313 11 10
Alumny Creek Dam	,,	,,	,,		682 3 2	*c*682 3 2
HASTINGS RIVER DISTRICT—						
Alterations, Wauchope Wharf	Constructing	Con. Rev.	1893	2 1 6		*a*
MANNING RIVER DISTRICT—						
Improvements of River	Improving	Loans	1895		493 0 4	493 0 4
Extension of Wharf, Cundletown	Constructing	Con Rev.	,,		141 2 9	141 2 9
TRIAL BAY DISTRICT—						
Harbour of Refuge	Constructing	Loans & Con Rev	1874		114,539 6 11	9,217 13 10
WOLLONGONG DISTRICT—						
Deepening Harbour	,,	Loans	1870		5,680 17 5	*a*
RICHMOND RIVER DISTRICT—						
Improving River	Improving	Loans & Con Rev	1878		143,895 3 7	40,826 18 10
Byron Bay Jetty	Constructing	,,	1884		15,413 8 7	356 0 0
Snagging Richmond River and Tributaries	Annual service	Con. Rev.	1893	1,513 0 0		90 4 1
,, ,, ,,	,,	,,	1894		2,912 19 9	2,912 19 9
,, ,, ,,	Improving	Loans	,,		1,034 6 6	1,034 6 6
Flood Relief Works, Richmond River, *via* Evans River	,,	,,	1895		415 3 11	415 3 11
Wharf at Wyrallah	Constructing	Con. Rev	,,		9 12 0	9 12 0
,, Broadwater	,,	,,	,,		18 10 10	18 10 10
NAMBUCCA RIVER DISTRICT—						
Clearing Obstructions	Improving	,,	1879		3 388 9 9	*a*
Improvements, Nambucca River Flats	,,	,,	1892	42 11 11		*a*
Wharf at Bowra	Constructing	,,	1895		13 6 4	13 6 4
TWEED RIVER DISTRICT—						
Improving Navigation of the Brunswick River	Improving	Loans	1889		1,147 12 3	*a*
Improvements, Tweed River	,,	,,	1890		17,726 13 1	6,564 13 1
Wharf at Stott's Creek	Constructing	Con Rev.	1892	115 7 0		*a*
Snagging Tributaries of the Tweed	Improving	,,	1894–5		119 12 3	119 12 3
MACLEAY RIVER DISTRICT—						
Improving Bellinger River	Improving	Loans & Con Rev	1890		11.599 0 6	5,618 12 11
Improving Entrance to the Macleay River	,,	Con. Rev.	1892	203 4 1		*a*
Construction of Dam, Clybucca Creek	Constructing	,,	,,		625 7 3	571 13 7
Repairs, Manning and Macleay Rivers Docks	Repairs	,,	1893		499 12 7	167 15 0
MORUYA DISTRICT—						
Improving Entrance, Fascine Banks	Improving	Loans & Con Rev	1888		14.783 8 8	*a*
Wharf, Wagonga River	Constructing	Con. Rev.	1892		583 18 6	*d*369 3 3
MURRUMBIDGEE AND DARLING RIVERS DISTRICT.						
Wharf, Shed, and Cranes, Moama	,,	,,	,,		2,626 17 10	850 0 0
Improving Murray, Murrumbidgee, and Darling Rivers	Improving	Loans & Con Rev	1856		203,425 13 0	679 18 9
COCKATOO—						
Fitzroy Dock	Constructing & in use	Loans & Con Rev	1848		33,590 5 3	*a*
Dock and other works in connection with Dock Establishment	Elongation of	Con. Rev.	1873	10,684 15 6		*a*
Workshops and other Buildings	Constructing	,,	,,	9,735 4 2		*a*
Dock Establishment, Contingencies	Annual Service	,,	1893	5,339 17 6		284 2 3
,, Salaries	,,	,,	,,	986 16 4		*a*
,, Contingencies	,,	,,	1894		5,578 18 6	5,578 18 6
,, Salaries	,,	,,	,,		992 5 10	992 5 10
Machinery	Nearly all erected and in use	,,	1883		12,314 0 0	*a*
New Dock, Biloela	Constructing	Loans	1881		282,270 10 8	*a*
Boiler Shop and Store, Fitzroy Dock	,,	Con. Rev.	1893	2,127 18 7		*a*
,, ,,	,,	,,	1894–5		1,372 6 2	1,372 6 2
Electric Light, New Dock, Cockatoo	,,	,,	1892	1,502 7 0		76 13 0
,, ,, Maintenance	Maintenance	,,	1895		101 19 5	101 19 5
MISCELLANEOUS						
Harbour and River Surveys	Annual Service	,,	1893	1,979 4 4		216 2 0
,, ,,	,,	,,	1894–5		3,743 0 1	3,743 0 1
Incidental Expenses to Wharfs, &c., &c.	,,	,,	1893	13,697 6 4		1,046 14 6
,, ,, ,,	,,	,,	1894–5		23,361 11 9	23,361 11 9
Improving Navigation of Hawkesbury River	Improving	Loans	1889		891 14 4	*a*
Alterations, "Sobraon"	Alterations	Con. Rev.	,,		24,677 3 5	780 5 10
Additions and Repairs, Gerringong Jetty	Alterations, &c.	,,	,,	1 380 12 6		*a*
Wharf and Crane, Brewarrina	Constructing	,,	1892	128 17 5		*a*
Repairs, Roads and Bridges and other Public Works damaged by heavy rains	Repairs	,,	1893		25,392 17 9	13 943 8 9
Reclamation, Doll's Point, Lady Robinson's Beach	Improving	,,	,,		172 1 3	*e*58 1 3
3 ton Crane and Replanking Tathra Wharf	Constructing	,,	,,	424 11 10		*a*
Repairs, Steam Hopper Barge "Castor"	Repairs	,,	,		7,046 9 10	6,055 11 7
Lighthouse, Point Perpendicular	Constructing	Loans	1890		157 12 4	157 12 4
Eden Wharf, Reconstruction	,,	Con. Rev.	1894		1,493 14 5	1,493 14 5
	Total			£ 339,849 17 7	6,701,704 17 7	601,903 14 6

(*a*) No expenditure, 1894–5 (*b*) £13 11s. 10d paid from Vote for Incidental Expenses, &c (*c*) Paid from Vote for Incidental Expenses.
(*d*) £83 18s 6d. paid from Vote for Incidental Expenses (*e*) £22 1s 3d. paid from Vote for Incidental Expenses

30

(VII.)

REPORT OF THE ENGINEER-IN-CHIEF FOR HARBOURS AND RIVERS.

Dredging Operations.

I have the honor to forward herewith the Annual Report on our dredging operations.

The Superintendent's report deals so exhaustively with the subject that it is unnecessary for me to go into any detail.

The plant at present under the control of this Department consists of:—

4 double ladder dredges.

10 single do.

1 Von Schmidt type of revolving cutter sand-pump dredge on a pontoon.

3 Dutch type of suction dredges with self-contained hoppers and screw propellers.

4 Dutch type suction dredges on pontoons for stationary work.

19 grab dredges.

27 tug boats of all kinds.

Five of the dredges and three of the tugs have been laid up during the year.

Since the introduction of the sand-pump dredges, the total yearly output has largely increased, with a very marked corresponding decrease in the average cost per ton. We now have five years' experience of the use of this class of dredge, and during that period the total amount of silt raised by all our dredges amounts to over 28,750,000 tons, or more than was raised on the thirteen previous years.

During the last five years the average cost per ton has been 4·085d., whereas the previous average cost amounted to 8·219d. per ton, which alone shows the advantage gained by the introduction of this class of plant.

The Minister having authorised me to convert two of the larger grab dredges into sand-pumps, arrangements are now being made for carrying this into effect. The two dredges in question, known as the "Sigma" and the "Rho," have large roomy iron punts which we built at the Fitzroy Dock; I propose placing small pumps on them of the Von Schmidt type, with 15″ suction and discharge pipes; the grab crane will be retained on one end of the punt for dredging stiff material and lifting snags and logs from rivers. These small dredges will be used chiefly for up river work, working in places where the silt can be discharged direct from the pipes.

The comparison which the Superintendent has drawn up between the cost of dredging in this Colony and in various English ports, in favour of the former, is interesting and instructive, seeing that here we pay higher wages and that repairs generally should be more costly. There are but two ways of accounting for this remarkable result: first, some of our cheapest work is done by dredges working two or more shifts, as pointed out by the Superintendent; secondly, that we employ experienced practical engineers to take charge of our dredges, instead of putting them in charge of sailors, as is very frequently the case. I have not the least doubt that in adopting this system we save a very large expenditure in annual repairs—on the principle that a "stitch in time saves nine" an experienced engineer can see at once when any portion of the plant requires attention, and carries out the repairs, often with his own staff, without stopping the plant if possible, or for as short a time as is necessary; whereas, when a sailor is in charge, he runs the plant as long as possible, until there is a general breakdown and the plant has to go to dock for an extensive overhaul and repairs. This is the only way to account for the fact that only from 15 to 30 per cent. of our expenditure is for repairs, while at the Tyne and Aberdeen repairs amount to 59 and 54 per cent. respectively. On the hopper type of self-propelling suction dredges we have a sailing-master in charge, this being necessary, as these vessels are often employed in a seaway loading the hopper and conveying the silt out to sea to discharge; but in this case there is a first-class certificated engineer in charge of the machinery, including both the engines and dredging machinery, the master simply having charge of the deck and navigating his vessel.

The most important work we have in hand is that at Newcastle, where the harbour was seriously injured by a vast accumulation of silt left during the heavy floods of 1893. By keeping four large dredges constantly at work in the harbour—one of them working three shifts, and one two shifts, making them practically equal to seven dredges—I am glad to say the lost ground has been gained and deep water again prevails in the most important channels within the harbour.

The working of the service has been satisfactory and harmonious, and we have had no serious collision or loss to our plant during the year.

C. W. DARLEY, M.Inst.C.E.,
Engineer-in-Chief, Harbours and Rivers.

REPORT

REPORT OF THE SUPERINTENDING ENGINEER OF DREDGES.

The Engineer-in-Chief for Harbours and Rivers,—

Department of Public Works,
Harbours and Rivers Branch, Sydney, 7 February, 1895.

Sir,

Herewith I beg to submit a detailed statement of work performed by the dredging-plant of the Department during the past year:—

Before particularising the operations at the different ports and rivers, I have thought it desirable, in justice alike to yourself and the dredge service, to compare, briefly, the cost of work in New South Wales with dredging work performed, under like conditions, in Europe and America—countries where cheap labour obtains, and where the eight-hours system does not, as in this Colony, curtail a day's work.

Hitherto statistics of dredging have been of such a meagre description that data upon which to have based a comparison was not obtainable; but this want exists no longer, Mr. Wheeler, M. Inst. C.E., in his work on "Tidal Rivers," published in 1893, having compiled records of the least costly dredging hitherto carried out in England, Scotland, the United States, France, and Germany. Of all the instances quoted by Mr. Wheeler, from the different countries just named, the lowest record of work at ladder and bucket dredging is that of the "Tees," where an average for lifting and transporting is given of 2·773d. per ton; but how this is arrived at is not very clear, the cost for 1890 being given as 3·386d., of 1891 as 3·11d., and of 1892 as 7d.

The next lowest quotation comes from "Newcastle-upon-Tyne," where a year's dredging costs 3·39d. per ton, divided thus—Dredging, 1·85d.; conveying, 1·45d.

Turning now to kindred work performed in New South Wales, we find the dredge "Newcastle" lifting in one year 1,193,045 tons of silt, at a cost of 2·378d. per ton, divided thus—Dredging, 1·609d.; conveying, 0·769d.; being 15 per cent. less than the best cited work on the "Tees" and 33 per cent. less than the cheapest dredging on the "Tyne." I have specially separated the dredging from the towing cost, lest it might be urged that the distance towed was greater in one case than the other, and it will be seen that for lifting alone colonial work is still the lowest.

And with reference to suction dredging, the merit of cheapest work belongs also to New South Wales. Mr. Wheeler cites "Dunkirk" pumping as the lowest, the figures being 1·5d. per ton; the "Danube" work next, at 1·825d.; the New South Wales suction dredge "Juno's" work for a year (1892) is 1·484d. per ton, and for 1891, 1·406d.

In explanation of the economical results arrived at, notwithstanding the eight-hours system and comparatively high wages, it may be noted that in the largest ladder dredges double and treble shifts are employed, one dredge thus doing the work of two or three under one controlling officer, who is an engineer experienced in preventing accidents and capable of having repairs quickly carried out, thus minimising stoppages, which are always chief factors in expensive work. The Dredge Regulations of 1880, which are rigidly adhered to, have cheapened work by preventing the service being burdened with unsuitable employees.

Ladder Dredges at Newcastle.

In the month of April a fire broke out at night on the dredge "Hunter," laid up for repairs, and the port for some time lost the services of a dredge, but this was almost compensated for by the excellent year's work performed by the "Newcastle" and by the exceptionally deep dredging of the "Samson," sent to replace the "Hunter" on completion of the latter dredge's repairs.

Dredge "Newcastle," working two shifts, and for part of the year three, lifted 1,193,045 tons silt, at cost of 1·609d. per ton.

Newcastle Harbour at the end of 1894 was in a comparatively satisfactory state, due, however, as much to the respite from floods as to the work of the dredges.

The "Hunter" dredged 85,030 tons, at 4·551d., and the "Samson" 376,650 tons, at 2·355d. The "Hunter" and "Samson" only worked for portions of the year, the former for twelve weeks with one shift, and the latter for twenty weeks with two shifts.

At the present time the outlook for 1895, owing to the prospect of more floods, is not cheering for shipmasters. However, it is satisfactory to know that the dredging appliances now at work in the harbour represent dredging at the rate of three million tons per year. Repairs after the fire increased the cost of the "Hunter's" work.

The ladder dredge "Vulcan" worked during the early part of the year at the upper end of Newcastle Harbour, and afterwards was sent up the Hunter River to deepen the lower flats, the sand-pump "Dorus" simultaneously being withdrawn from the river to carry on reclamation work at Scott's Point, Stockton.

Dredge "Vulcan," working in Newcastle, lifted 107,250 tons, and on the Hunter River, 123,900 tons, at a cost of 3·202d. per ton.

Ladder Dredges at Sydney.

The Estimates for 1894, showing a decrease of £31,068 upon those of the preceding year, were based upon the presumption that the ladder-dredges "Sampson," "Charon," "Archimedes," and other vessels would not work; but early in 1894 it was determined that the dredges named should be commissioned.

The "Sydney," working in various parts of Sydney Harbour, dredged 318,080 tons of silt, at a cost of 3·579d. per ton.

The "Samson" was accordingly put to work in Woolloomooloo Bay in February, and continued dredging in Sydney until when, owing to the great length of her ladders, it was decided to send her to Newcastle to take the place of the "Hunter." The cost of the dredge "Sydney's" work is high compared with the rate of 1893, owing to the plant having undergone the first extensive overhaul since the dredge was built six years ago. The "Sydney" was employed deepening Darling Harbour to enable the large mail steamers to load at the new jetties, improving Woolloomooloo Bay, and deepening White Bay preparatory to the new wharf being built there. The "Samson" was employed at Woolloomooloo Bay and at the approach to the Long Cove Canal, and the "Hunter" at deepening Neutral Bay and Careening Cove, the silt being used for reclamation purposes by pumping at Rozelle Bay.

The "Samson" worked from February to June, lifting 132,630 tons, at a cost of 2·355d. per ton.

The "Hunter" worked from July to December, lifting 168,695 tons, at a cost of 4·551d. per ton.

Ladder

Ladder Dredges at other Ports.

"Ulysses" lifted 234,200 tons of shingle, at a cost of 2·539d. per ton.

At the Manning River the "Ulysses" has been throughout the year improving the up river channels chiefly between Taree and Wingham. The record, both as regards cost and quantity, compares favourably with the work of the preceding year.

"Minos" dredged 171,540 tons sand and shingle; cost per ton, 3·632d.

Early in 1894 the "Minos" was sent to the Clarence River to work at the main channel near Grafton (instead of the grab-dredge "Alpha"); the dredging at this place occupied the remainder of the year. The expense of removing the dredge from Lake Macquarie to the Clarence increased the cost of the work.

Dredge "Fitzroy" lifted 245,310 tons shingle and sand, at a cost of 2·614d. per ton.

Throughout the year dredging has been vigorously proceeded with at the Macleay River, with the view of opening up the ocean steamer trade again with Kempsey. The ladder dredge "Fitzroy" was engaged all the year at and below Kempsey, while the sand-pump "Alesus" dealt with the long flats at Fisherman's Channel, Shark Island, and Long Reach. Communication with Kempsey will be restored next month.

Dredge "Alcides" lifted 166,340 tons, costing 3·300d. per ton.

The dredge "Alcides" worked at the Richmond River at Pimlico and Wardell Flats, and at the south training wall until December, when the new canal at Fishery Creek was started with.

Dredge "Charon" dredged 113,760 tons of sand, at a cost of 4·865d. per ton.

The small ladder-dredge "Charon" was put in commission in February, and was sent to Port Hacking to deepen the channel between the Deer Park and Audley, but was withdrawn temporarily from the district, and was sent to complete the unfinished channel, started during the preceding year, at Brooklyn, and left incomplete at the time of general retrenchment in July, 1893.

Dredge "Archimedes" lifted 65,370 tons, at a cost of 8·203d. per ton.

In February the small dredge "Archimedes" was commissioned and sent to Moruya to attempt to effect some improvement near the bar. Some good was done, as a small coasting steamer (finally lost on the bar) was enabled to make weekly trips. The cost of the work was very high, owing to the delays due to rough water, and the fact that towing cannot be carried on except when the tide is up.

Sand-pumps.

"Neptune," at ClydeBar, Ulladulla, and Anandale, lifted 249,000 tons of varied material at a cost including alterations to suction pipe, of 3·434d. per ton. Of the above-named quantity 80,700 tons were dumped at sea.

The sand-pump "Neptune" at the beginning of the year was working on the Clyde Bar, the experiment proving most unsatisfactory, owing to the material operated upon not being sand, and the vessel not being able to cut her way through the shallow bank, this was aggravated by the surge of the sea breaking the pipe. The "Neptune" was brought to Sydney, and the suction pipe was altered so as to project beyond the bow of the vessel. On resuming work no difficulty was experienced, the bar being deepened and navigation much improved. Deepening inside the bar has still to be carried on, but this will probably be done by a ladder-dredge. Ulladulla Harbour was deepened by the "Neptune" on the return journey to Sydney, and in August reclamation work was started at Glebe Point, where most satisfactory progress is being made in filling up the insanitary bay between the Glebe and Annandale, the material pumped is towed to the "Neptune" from ladder and grab dredges, and dumped alongside the pump instead of as before being taken out to sea.

"Groper" cut, pumped, and deposited on land 428,175 tons at a cost of 1·942d. per ton.

The Von Schmidt dredge "Groper" has been working at deepening and reclamation work at Callan Park and Long Cove. The dredge cut its way through about half a mile of the canal, pumping the material on to the north side, giving most satisfactory evidence of being able to deal with stiff clay and soft rock, as well as with silt.

"Juno" pumped 238,400 tons of silt and sand at a cost of 3·043d. per ton. 174,700 tons of this quantity were dumped at sea.

The sand-pump "Juno," from January to October, was employed filling her own hopper in the outer harbour, Newcastle, and depositing the silt, so lifted, at sea. Subsequently reclamation work behind the dyke was resumed, the sand being discharged on to Bullock Island.

Sand-pump "Dorus" pumped 289,400 tons at a cost of 1·973d. per ton.

The sand-pump "Dorus" during the first half of the year was employed making a channel at Eales' Flats on the Hunter River, the material being deposited on a shallow bank north of the cutting. Later on work was started at Scott's Point, Stockton, where reclamation is now being proceeded with.

Sand-pump "Alesus," working on the Macleay, pumped 485,300 tons of sand at a cost of 1·975d. per ton.

In a previous paragraph recording the deepening operations on the Macleay River, the work of the sand-pump "Alesus" was referred to, that dredge having deepened three of the long flats at the lower part of the river and at Long Reach. The "Alesus" is now at Seven Oaks Flat, and it has been approved that, on the completion of it, work be resumed on the Nambucca River. During the time the "Alesus" has been on the Macleay double shifts have been employed.

"Dictys" pumped 337,500 tons of sand, cost 1·847d. per ton.

The "Dictys" has been employed at the Richmond River Heads chiefly in connection with the Harbour Improvement Works. Occasionally, as it became necessary, sixteen hours work per day was performed. An attempt was made to work in rough water, but this type of sand-pump not being well adapted for such dredging, the experiment was not a success.

Grab-Dredges.

"Alpha" lifted 31,950 tons at 6·858d. per ton.

This dredge was removed early last year from the Clarence to Tweed River, where the deepening of Dunbible Creek has been carried out.

"Beta" lifted 32,850 tons at 6·034d. per ton.

Worked at South Forster, Cockatoo Island, Darawank, and the main channel, Cape Hawke.

"Gamma" lifted 32,700 tons at 9·250d. per ton.

Was principally employed at Bain's Falls, Wauchope, Red Bank, Ennis Flat, and Andrews Falls, Hastings River. During the year the whole plant received a thorough overhaul.

"Delta" lifted 35,340 tons, at 6·396d. per ton.

Worked at the Hunter River, Raymond Terrace, Newcastle, and Lake Macquarie. The expense of removal to and from Lake Macquarie has increased the cost of the year's work.

"Zeta" lifted 13,237 tons, at 12·369d. per ton.

Removed obstructions in Teven Creek, Richmond River; the material met with was unfavourable to cheap work.

Deepened

"Eta" lifted 41,170 tons, t 4 870d. per ton. Deepened at Tea Tables; Main Channel, John's River; entrance Queen's Lake, Camden Haven.

"Theta" lifted 47,855 tons, at 3·404d. per ton. Dredged principally at North Arm, Martin's Point, and Eatonsville Falls, Clarence River.

'Iota" lifted 35,386 tons, at 4·771d. per ton. Dredged on Main River and Taylor's Arm, Nambucca River.

"Kappa" lifted 52,855 tons, at 4 112d. per ton. Deepened at Long Cove, Callan Park, and various sewers, Balmain and Sydney.

"Nu" lifted 5,335 tons, at 35·040d. per ton. Lifted blasted material at Pyrmont Jetties and Steel Point.

"Sigma" lifted 68,235 tons, at 2·749d. per ton. Dredged at Brasswater, Shark's Hole, and Lower Myall, near Tea Gardens.

"Tau" lifted 36,357 tons, at 4·890d. per ton. Worked at South Arm, Wardell, and Bingall Creek, Richmond River.

"Omicron" lifted 37,386 tons, at 4·565d. per ton. At Shea's Creek, Cook's River.

"Rho" lifted 13,035 tons, at 16·286d per ton. Lifting blasted rock, at Newcastle principally.

"Pi" lifted 21,580 tons, at 9 679d. per ton. At Moruya and Wagonga Rivers; at latter place navigation has been opened to the new wharf.

"Chi" lifted 83,080 tons, at 3·430d. per ton. At South Arm, Back Creek, and between Fernmount and Boat Harbour. Two shifts have been employed for six months.

"Omega" lifted 835 tons, at 110·240d. per ton. Was hired at Wollongong, and on return to Sydney, late in the year, was overhauled and towed to the Clarence, where the dredge is now engaged lifting blasted rock.

After the collision with the "Time" the steam hopper "Castor" was towed to Sydney, but owing to want of funds no repairs were effected for some time. During 1894 the hull was lengthened 17 feet, with the view of ultimately adding a sand-pump. Very considerable improvements were effected in the vessel's general arrangements, among others telescoping the funnel and arranging to lift it by steam and lower it when passing under bridges to reclamation sites.

Additional towing power being required, a new iron tug has been laid down at the Fitzroy Dock Works. The dimensions are 90 feet by 18 feet beam, with fine lines. Engines of 240 indicated horse-power will be fitted, and as the boiler will be worked under forced draft good results may be looked for.

I look forward with much satisfaction to the proposed conversion of grab-dredges into sand-pumps, reserving the power to use either grab or pump as occasion requires on the same hull. The dual arrangement will be of the greatest possible advantage at such places as the Myall, Cape Hawke, the Hastings, the Nambucca, the Bellinger, and Moruya.

I have, &c.,
A. B. PORTUS.

STATEMENT of Ladder-dredge Expenditure and Work for the Year 1894.

Ladder dredges.	Where dredging.	Material lifted.	Tons dredged.	Hours dredging.	Expenditure.	Cost per ton.	Cost per hour dredging	Remarks.
					£ s. d.	d.	£ s. d.	
"Newcastle"..	Newcastle Harbour.	Sand and mud	1,193,045	3,663	7,999 4 7	1·609	2 3 8	
"Samson"....	Sydney and Newcastle Harbours	do	509,280	1,927	4,998 3 3	2·355	2 11 10	
"Vulcan". .	Newcastle and Hunter River.	do	231,150	1,180	3,083 18 10	3·202	2 12 3	
"Hunter"..	Newcastle & Sydney Harbours.	do ..	253,725	1,100	4,811 7 9	4·551	4 7 6	Extensive repairs after fire and removal to Sydney have increased cost.
'Fitzroy".	Macleay River ..	Shingle and sand	245,310	1,614	2,671 17 3	2·614	1 13 1	
"Archimedes"	Moruya River	Sand and mud	65,370	973	2,234 8 8	8 203	2 5 10	Considerable delay waiting for tides has increased the cost.
'Charon". .	Port Hacking and Hawkesbury Rivers.	Sand and clay.....	113,760	1,550	2,306 0 4	4·865	1 9 9	
"Ulysses"..	Manning River	Shingle	234,200	1,434	2,478 0 8	2·539	1 14 7	
"Minos"	Clarence River	Sand and mud .	171,540	1,402	2,596 8 0	3·632	1 17 0	
"Alcides"..	Richmond River..	do	166,340	1,617	2,287 3 11	3·300	1 8 3	
"Sydney".	Sydney Harbour .	Sand, mud, and clay .	318,080	1,462	4,743 19 11	3 579	3 4 11	Extensively repaired.
			3,501,800	17,922	40,210 13 2			
	Average cost per ton and per hour					2·755	2 4 10	

STATEMENT of Sand-pump Dredge Expenditure and Work for the Year 1894.

Sand pump dredges	Where pumping.	Material lifted.	Estimated tons lifted.	Hours pumping	Expenditure.	Cost per ton.	Cost per hour pumping	Remarks.
					£ s d	d.	£ s. d	
"Neptune"	Bateman's Bay, Ulladulla, and Sydney.	Sand and mud	249,000	1,475	3,552 18 9	3·424	2 8 2	Includes cost of depositing 80,700 tons at sea
"Juno"	Newcastle Harbour	do .	238,400	852	3,023 5 4	3 043	3 11 0	Includes cost of depositing 174,700 tons at sea.
"Actor"	Tweed River	Sand	246,200	1,232	2,629 18 5	2 564	2 2 8	
"Alesus" ..	Macleay River	do .	485,300	2,426	3,994 11 2	1·975	1 12 11	
"Dorus" ...	Newcastle and Hunter River.	do	289,400	1,447	2,379 0 8	1·973	1 12 11	
"Dictys"	Richmond River.	do	337,500	1,688	2,598 8 10	1 847	1 10 9	
"Groper"	Sydney Harbour..	Sand and mud	428,175	1,571	3,470 12 6	1 942	2 1 0	
			2,273,975	10,691	21,648 15 8			
	Average cost per ton and per hour.....					2·284	2 0 6	

STATEMENT of Grab Dredge Expenditure and Work for the Year 1894.

Grab Dredge	Where dredging	Material lifted	Tons dredged	Hours dredging	Expenditure	Cost per ton	Cost per hour dredging	Remarks
					£ s d	pence	£ s d	
"Alpha"	Clarence and Tweed Rivers	Sand and gravel	31,950	874	911 16 7	6 858	1 0 10	Delay in transfer from Clarence River increases cost
"Beta"	Cape Hawke	Sand	32 850	1,723	825 18 4	6 034	0 9 7	
"Gamma",	Port Macquarie	Sand, mud, and shingle	32,700	1,272	1,260 7 4	9 250	0 19 10	Very extensive overhaul to plant
"Delta"	Newcastle, Lake Macquarie, and Hunter River	Sand and mud	30,340	828	941 18 11	6 396	1 2 9	Several removals have increased cost.
"Zeta"	Richmond River	Shingle, clay, and boulders	18,237	1,629	682 5 0	12 369	0 8 5	Material unfavourable to cheap work.
"Eta"	Camden Haven	Sand and mud	41,170	1,287	835 10 3	4 870	0 13 0	
"Theta"	Clarence River	Sand, mud, and shingle	47,855	1,612	678 17 7	3 404	0 8 0	
"Iota"	Nambucca River	Quartz and sand	35 386	1,403	703 10 8	4 771	0 10 0	
"Kappa"	Sydney Harbour	Clay, mud, and stones	52,800	1,406	905 12 8	4 112	0 12 9	
"Nu"	do	Rock and mud	5,335	486	778 18 7	35 040	1 12 1	Lifted blasted rock from divers
"Omicron"	Cook's River	Sand and mud	37,386	1,616	711 4 11	4 565	0 8 10	
"Sigma"	Myall River	do	68,386	1,433	781 16 1	2 719	0 10 10	
"Tau"	Richmond River	do	36,230	1,306	740 18 2	4 890	0 11 4	
"Pi"	Moruya and Wagonga Rivers	do	21,080	794	870 7 4	9 679	1 1 11	Conditions very unfavourable to cheap work
"Rho"	Newcastle Harbour	Rock and sand	13,035	1,605	884 16 2	16 286	0 10 8	Lifted blasted rock principally
"Chi"	Bellinger River	Gravel and sand	83,080	2,850	1,187 13 0	3 430	0 8 4	
"Omega"	Clarence River	Rock	830	102	383 10 11	110 240	3 15 2	Commenced work (lifting blasted rock) in November, after extensive repairs and removal from Sydney to Clarence
			589,186	22,406	14,085 2 6			
	Average cost per ton and per hour					5 737	0 12 7	

STATEMENT of Tug Expenditure and Work for the Year 1894.

Tugs	Where employed.	Tons towed	Miles towed	Hours under steam	Expenditure	Cost per ton	Cost per mile	Cost per hour	Remarks
					£ s d	pence	pence	£ s d	
"Thetis"	Sydney	82,290	3 197	711	697 7 10	2 033	52 333	0 19 7	
"Ajax"	do	110,275	3,870	798	528 5 1	1 171	33 304	0 13 6	
"Castor"	do	81,540	1 801	500	950 12 4	2 797	126 678	1 18 0	Extensive repairs effected
"Orestes"	Newcastle	1,097 830	22,166	4,867	3,399 15 4	0 743	36 810	0 13 11	
"Ceres"	do	520,830	16,008	3,152	2,369 12 7	1 081	35 031	0 15 0	
"Dawn"	Sydney	98,130	4,619	946	534 8 2	1 307	27 767	0 11 4	
"Rhea"	Newcastle	235,690	11,050	2,360	1,032 0 2	1 050	22 414	0 8 9	
"Dione"	Sydney and Newcastle	84 890	3 986	985	410 12 9	1 160	24 724	0 8 4	
"Little Nell"	Sydney	217,210	8,105	2,193	1 173 8 8	1 296	34 746	0 10 9	
"Charybdis"	Manning River	211,100	4 182	2,149	769 10 11	0 874	44 163	0 7 2	
"Calisto"	Cape Hawke and Bellinger River	33,990	3,012	2,422	558 4 10	3 941	44 481	0 4 7	
"Ganymede"	Newcastle	12 150	381	127	15 5 1	0 301	9 608	0 2 5	
"Athena"	Macleay River	193 200	4,458	1,927	631 1 10	0 783	33 975	0 6 6	
"Scylla"	Newcastle, Lake Macquarie, and Sydney	32,390	2,033	1,715	344 17 9	2 555	40 714	0 4 0	
"Dayspring"	Sydney and Hawkesbury Rivers	39,795	1,138	718	189 6 7	1 141	39 928	0 5 3	
"Mikado"	Manning and Moruya Rivers	82,710	6,074	2,460	833 19 5	2 417	32 952	0 6 10	
"Aurora"	Port Hacking and Sydney	117,710	6,084	2,024	537 8 5	1 095	21 200	0 5 4	
"Vesta"	Clarence River	169,670	8,639	2,486	322 15 1	0 456	21 286	0 2 7	
"Oberon"	Port Macquarie	52,700	771	1,826	540 0 4	4 000	169 654	0 6 0	Extensive repairs effected
"Europa"	Moruya and Wagonga Rivers	19,375	1,945	1,650	144 17 10	1 794	17 878	0 1 9	
"Ariel"	Myall River	23,370	1,897	2,079	211 18 5	2 176	26 811	0 2 0	
"Red Lichtie"	Lake Macquarie and Newcastle	5,820	794	414	75 9 3	3 214	22 809	0 3 8	NOTE.—Expenditure for Special Services not included
		3,507,570	111,211	38,509	16,280 18 8				
	Average cost per ton, per mile, and per hour					1 114	35 146	0 8 0	

STATEMENT of comparative quantity and cost of work done by Ladder Dredges (including towing), 1892-4.

Ladder Dredges	Dredging, towing, and repairing, 1892			Dredging, towing, and repairing, 1893			Dredging, towing, and repairing, 1894		
	Tons	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton.
		£ s d			£ s d			£ s d	
"Newcastle," at Newcastle	873,600	10,932 13 1	3 030	519,920	7,750 12 4	3 576	1,193,045	11,822 12 3	2 378
"Samson," at Sydney and Newcastle	143,830	6,402 2 3	10 718	61,180	2,856 3 8	11 203	609,280	7,580 12 9	3 572
"Vulcan," at Newcastle and Hunter River	452,410	8,985 13 1	4 766	208,470	3,652 2 4	4 201	231,150	4,106 17 1	4 264
"Hunter," at Newcastle and Sydney	367,110	10,143 19 10	6 916	548 130	6,370 5 1	2 789	253,725	6,350 14 2	6 007
"Hitzroy," at Macleay River	251,210	3,064 6 2	2 926	256,790	3,609 2 2	3 160	245,310	3,326 19 1	3 254
"Archimedes," at Sydney, Hawkesbury, and Moruya Rivers	120,785	4,620 8 3	8 815	70,180	2,043 19 7	6 292	65,370	2,857 4 1	10 489
"Charon," at Sydney, Hawkesbury, and Port Hacking Rivers	140,015	4,215 3 5	7 224	73,800	2,195 15 7	7 140	113,760	2,831 12 1	5 974
"Ulysses," at Manning River	197,960	3,038 6 11	3 682	200,060	3,439 4 10	4 124	234,200	3,488 19 8	3 575
"Minos," at Lake Macquarie and Clarence River	140,170	3,190 4 9	5 445	23,200	1,233 4 0	12 755	171,540	2,921 10 2	4 087
"Alcides," at Richmond River	87,220	3,295 3 2	9 065	116,290	2,702 5 0	5 576	166,340	2,776 6 5	4 005
"Sydney," at Sydney	284,970	5,461 9 1	4 598	320,980	5,246 8 2	3 922	518,080	7,101 12 0	5 358

STATEMENT of comparative quantity and cost of work done by Sand Pump Dredges, 1892-4.

Sand Pump Dredges	Dredging, Depositing, and Repairing, 1892			Dredging, Depositing, and Repairing, 1893			Dredging, Depositing, and Repairing, 1894		
	Tons	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton.
		£ s d			£ s d			£ s d	
"Neptune" at Bateman's Bay, Ulladulla, and Sydney	524,550	4,892 16 3	2 238	197,700	2 368 18 6	2 876	249,000	3,552 18 9	3 424
"Juno," at Newcastle	591 600	3,431 4 0	1 484	272,480	2,572 10 5	2 265	238,400	3,023 5 4	3 043
"Actor" at Tweed River	484 800	3,404 4 1	1 685	303,000	2,246 8 10	1 779	246,200	2,629 18 5	2 564
"Alcyus," at Nambucca and Macleay Rivers	303 200	2,559 7 10	2 025	317,800	3,297 5 0	2 489	485,300	3,994 11 2	1 975
"Dorus," at Sydney, Newcastle, Hunter and Myall Rivers	296,600	2,440 11 7	1 974	274,800	2,307 1 4	2 014	289,400	2,379 0 8	1 973
"Dictys," at Richmond River				78,600	998 11 10	3 049	337,500	2,598 8 10	1 847
"Groper," at Sydney Harbour		.. .		239,250	2,572 6 11	2 580	428,175	3,470 12 6	1 942

DIAGRAM

SHEWING QUANTITY OF SAND AND ROCK DREDGED YEARLY IN NEWCASTLE HARBOUR. FROM 1859 TO 1894.

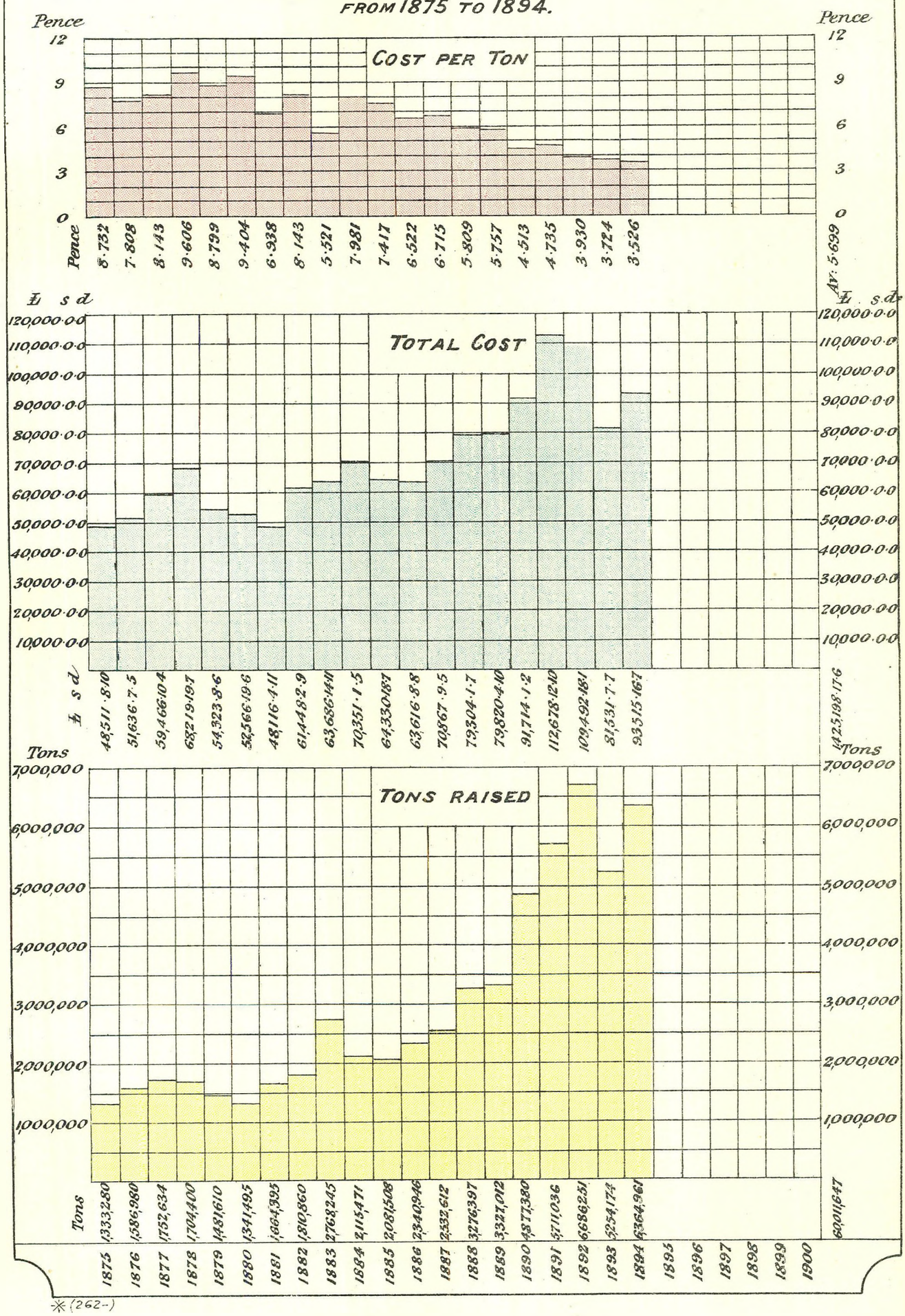
YEAR	TONS DREDGED YEARLY ROCK	SAND & TOTAL
1859		37,382
1860		
1861	14,710	14,710
1862	15,600	15,600
1863	11,500	11,500
1864	24,980	24,980
1865	22,210	6,840 29,050
1866	11,480	47,200 58,680
1867	4000	223,865 227,865
1868	10,515	101,068 111,583
1869	3,830	24,380 28,210
1870	7,984	160,760 168,744
1871	26,280	86,860 113,140
1872	15,986	16,800 32,786
1873	32,570	217,190 249,760
1874	16,580	351,840 368,420
1875	680	650,080 650,760
1876	17,480	803,720 821,200
1877	11,960	824,598 836,558
1878	12,710	662,835 675,545
1879	70,800	391,880 462,680
1880	4,640	435,260 439,900
1881		524,250 524,250
1882		566,250 566,250
1883	470	920,925 921,395
1884	8095	791,575 799,670
1885	17,095	633,588 650,683
1886	13,440	846,121 859,561
1887		981,027 981,027
1888		1,328,727 1,328,727
1889	725	1,396,175 1,396,900
1890	8,772	1,147,644 1,156,417
1891	10,338	2,005,515 2,015,853
1892	6,392	2,256,898 2,263,290
1893	5,268	1,539,742 1,545,010
1894	4,705	1,149,215 1,153,920
1895		
1896		
1897		
1898		
1899		
1900		
1901		
TOTAL	411,800	23,139,194 23,541,994 TO END OF 1894.

*(Sig 262-)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.

HARBOURS AND RIVERS DEPT. N.S.W.

DIAGRAM SHEWING TOTAL DREDGING OPERATIONS FROM 1875 TO 1894.



(262-)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.

STATEMENT of comparative quantity and cost of work done by Grab Dredges (including towing), 1892–4.

Grab Dredges.	Dredging, towing, and repairing, 1892.			Dredging, towing, and repairing, 1893			Dredging, towing, and repairing, 1894		
	Tons.	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton	Tons	Expenditure	Pence per ton.
		£ s d			£ s d			£ s d	
"Alpha," at Clarence and Tweed Rivers	108,525	2,048 5 0	4 640	44,525	1,127 11 3	6 077	31,950	952 3 7	7 161
"Beta," at Cape Hawke	44,170	1,123 2 3	6 102	29,880	1,034 19 6	8 313	32,800	1,332 8 9	9 734
"Gamma," at Port Macquarie	35,995	1,100 6 7	6 456	47,200	1,063 14 5	5 408	32,700	1,805 7 8	13 250
"Delta," at Newcastle, Hunter River, and Lake Macquarie	49,150	1,123 7 6	5 973	40,070	825 5 8	4 943	35,340	1,327 5 4	9 013
"Zeta," at Richmond River	61,985	775 16 3	2 926	39,180	805 2 3	4 931	13,297	710 9 6	12 881
"Eta," at Camden Haven	44,625	1,155 16 8	6 216	50,670	1,143 2 6	5 414	41 170	1,148 17 3	6 697
"Theta," at Clarence River	8,264	1,168 0 2	33 918	20,940	1,043 12 1	12 252	47,800	809 16 4	4 061
"Iota," at Nambucca River	49,000	660 19 3	3 233	27,480	791 7 0	6 911	35,386	712 5 8	4 730
"Kappa," at Cook's River and Sydney	122,168	965 3 11	1 896	78,319	656 9 3	2 011	52,825	1,035 2 0	4 700
"Nu," at Sydney	17,877	915 2 3	12 295	21,147	834 6 5	9 468	5,335	811 7 1	36 499
"Omicron," at Cook's River	51,969	891 8 6	2 624	45,900	445 5 2	2 328	37,386	711 4 11	4 665
"Sigma," at Myall River	49,265	959 14 6	4 675	76,721	971 18 7	3 040	63,235	993 14 6	3 495
"Tau," at Richmond River	86,640	696 7 8	1 929	58,250	706 7 7	2 910	36,317	740 18 2	4 890
"Pi," at Moruya and Wagonga Rivers	47,270	1,094 10 10	5 557	40,950	1,134 16 10	6 650	21 580	998 1 1	11 099
"Rho," at Newcastle	20,800	873 6 11	10 077	15,470	584 15 4	9 072	13,035	905 1 11	16 669
"Chi," at Bellinger River	39,510	764 2 4	4 641	42,855	674 13 8	3 780	83,080	1,323 16 0	3 823
"Omega," at Sydney and Clarence River	39,040	644 18 6	3 964	48,615	604 0 10	2 944	830	383 10 11	110 240

AVERAGE Cost of Dredging and Conveying, 1894.

Class of Dredge.	Tons dredged.	Hours dredging	Dredging only.			Dredging and Towing.	
			Expenditure	Average cost per ton	Average cost per hour	Expenditure	Average cost per ton.
			£ s d.	d.	£ s d.	£ s d	d
Ladder Dredges . .	3,501,800	17,922	40,210 13 2	2 755	2 4 10	55,164 19 9	3 780
Sand Pump Dredges .	2,273,975	10,691	21,648 15 8	1 942	2 0 6	21,648 15 8	1 942
Grab Dredges .	589,186	22,406	14,085 2 6	5 737	0 12 7	16,701 11 2	6 800
	6,364,961	51,019	75,944 11 4	2 863	1 9 9	93,515 16 7	3 526

COMPARATIVE cost of Dredging in Europe and New South Wales.

Europe	Pence	New South Wales	Pence
Clyde—Work by ladder dredge (capable of lifting 500 tons per hour)—		Newcastle—Work by stationary ladder dredge (capable of lifting 500 tons per hour)—	
Dredging soft material at per ton	2 06	Dredging soft material, at per ton	1 609
Conveying to Loch Long (7 miles) at per ton	2 00	Conveying to sea (3 miles) at per ton	0 769
Total .	4 06	Total .	2 378
		Sydney—Work by ladder dredge (capable of lifting 500 tons per hour)—	
About 2,000,000 tons are dredged annually ; the actual quantity in 1892 was 2,158,628 tons		Dredging sand, mud, and clay, at per ton	2 069
		Conveying to sea (10 miles) at per ton	1 853
For the year 1890 the cost per ton was	4 60	Total	3 922
		The cost includes detention caused by rough sea In 1894 the quantity dredged in Newcastle was 2,153,920 tons (of which 12,035 tons was specially hard material), the cost of dredging and depositing being on the average at per ton	2 959
Suction dredges—		Suction dredges—	
Writing in 1893 of the rate at which suction dredging had been carried out at Dunkirk, Mr. Wheeler, M Inst C E, says —The cost of pumping up sand and conveying it through long floating pipes on to the land is per ton	1 50	* The "Juno," at Newcastle, in one year (1892) lifted and put ashore 554,600 tons, at per ton	1 484
		And in 1891, 604,608 ,, ,,	1 406
		The "Actor," at Tweed River, in one year lifted and put ashore 484,800 tons, at per ton	1 685

* In 1893 and 1894 the "Juno" was only partially employed pumping on shore.

(VIII.)

MINUTE PAPER.

SUPPLEMENTARY REPORT ON DREDGING.

Department of Public Works, Engineer-in-Chief's Office, Sydney, 14 October, 1895.

HEREWITH I beg to submit a statement showing the work performed by the ladder and grab dredges and sand-pumps for six months of 1895, viz., from 1st January to 30th June, by which it will be seen that there is an increase over the output of half of the work of 1894. The cessation of Hunter River floods has enabled the Newcastle dredges to make satisfactory progress with the harbour deepening at that port, and the sand-pumps are steadily pursuing reclamation work at Stockton and Bullock Island. At the latter place the large sand-pump "Jupiter" is being fitted with two distinct 20-inch discharge-pipes, to enable both of the dredge sand-pumps to work simultaneously. The "Jupiter" was intended for working at the Clarence River Heads, but the scour from the guide walls at that port is so successful that the services of the "Jupiter" are no longer required, and the vessel has been, therefore, temporarily withdrawn for the urgent work at Newcastle.

In Sydney Harbour the Von Schmidt dredge "Groper" has reclaimed nearly all the Government land on each side of the new canal at Long Cove, and is now being slightly altered to take advantage of the wider passage under Glebe Island Bridge, which the Engineer-in-Chief has designed to enable this large dredge to carry out the Rozelle Bay reclamation beyond Gordon-street. The sand-pump "Juno" is making good headway in filling up the extensive enclosed area between Glebe Point and Annandale. The "Neptune" was engagedwith this work, but was withdrawn and sent to deepen the Clyde bar.

Neither of the sand-pumps at the Richmond or the Nambucca have worked to advantage during the past six months, the "Dictys" having to be sent to the Richmond Crossing, where full work is not practicable, and the "Alesus" having to be brought round from the Macleay to the Nambucca. At the Tweed, the pump "Actor" has been employed at the up-river channels.

The grab-dredge "Sigma" has been lengthened 20 feet, and is now being fitted with compound engines, boiler, and pump. The "Rho" is being similarly treated. Attention was drawn in the last report (February, 1895) to the advantages to be looked for from these alterations, and it is only necessary to say in addition thereto, that with the altered vessels the silt will be deposited out of harm's way, and that while the average cost of lifting material with grabs, exclusive of those lifting rock, has averaged 4⅓d. per ton, the estimated cost by pumping is 2¼d. per ton.

A channel suitable for large steamers engaged in the cattle trade to England has been made by the dredge "Hunter" to enable live stock for England to be shipped at the new jetty recently erected at the White Bay reclaimed land. The dredge "Sydney" has been chiefly employed deepening in Darling Harbour.

Good progress is being made with the Fishery Creek Canal, near Ballina, to enable the cane-punts to be brought through in smooth water from the North Creek to the main river. The ladder-dredge "Alcides" and the grab "Zeta" are employed at this work. The "Alcides" and "Minos" have been so fitted as to admit of the silt raised being flushed on shore through pipes, while the ladder-dredge "Fitzroy," at the Macleay, is being supplied with very powerful pumps to convey the material lifted through pipes on pontoons to a considerable distance. The new tug "Galatea," built at Fitzroy Dock, is working, and promises to be a most useful steamer. The "Little Nell" and "Achilles" have been altered and improved, and the "Ajax" is now out of commission, the towing being done by the inexpensively worked steamer "Cyclops." All the plant is being kept in good order.

A. B. PORTUS.

STATEMENT of Ladder Dredge Work for the first six months of 1895.

Dredge.	Where Dredging.	Tons Dredged.	Hours and Per-centage.	Detail of Working Hours.								Remarks.
				Dredging.	Coaling, &c.	Removals.	Bad Weather.	Waiting Punts.	Repairs.	Other Causes.	Total Working Time.	
"Samson"	Newcastle Harbour	286,175	Hours	1,223	24	32	291	74	540	39	2,223	Working two shifts; repairs effected in January.
			%	55	1	2	13	3	24	2	100	
"Sydney"	Sydney Harbour	182,190	Hours	767	11	130	14	11	231	22	1,186	
			%	65	1	11	1	1	19	2	100	
"Charon"	Hawkesbury River	80,155	Hours	909	55	73	..	9	142	..	1,188	
			%	76	5	6	..	1	12	..	100	
"Newcastle"	Newcastle Harbour	684,015	Hours	2,064	16	22	1,057	37	159	5	3,360	Working three shifts; not overhauled during half-year.
			%	61·5	·5	1	31	1	5	..	100	
"Hunter"	Sydney Harbour	210,800	Hours	756	16	76	8	75	255	..	1,186	Overhauled during May and June.
			%	64	1	7	1	6	21	..	100	
"Vulcan"	Newcastle and Hunter River.	110,190	Hours	679	..	38	256	30	184	2	1,189	Overhauled during April.
			%	57	..	3	22	3	15	..	100	
"Alcides"	Fishery Creek, Richmond River.	105,800	Hours	1,297	17	22	32	13	284	18	1,683	Working two shifts three months, and one shift three months.
			%	77	1	1	2	1	17	1	100	
"Fitzroy"	Macleay River	90,720	Hours	679	32	55	73	16	247	53	1,155	Overhauled in January.
			%	59	3	3	7	2	21	5	100	
"Ulysses"	Manning River	62,200	Hours	459	10	62	52	45	564	3	1,195	Overhauled in May.
			%	39	1	5	4	4	47	..	100	
"Minos"	Clarence River	108,080	Hours	856	39	68	81	12	99	9	1,164	
			%	74	3	6	7	1	8	1	100	
"Archimedes"	Moruya River	35,560	Hours	437	7	17	215	279	116	19	1,090	
			%	40	·5	1·5	20	25	11	2	100	
		1,955,885										

STATEMENT of Grab Dredge Work for first six months of 1895.

Dredge.	Where Working.	Tons Dredged.	Hours and Per-centage.	Detail of Working Hours. Dredging.	Coaling, &c.	Removals.	Bad Weather.	Waiting Punts.	Repairs.	Other Causes.	Total Working Time.	Remarks.
"Alpha"	Dunbible and Terranora Creeks, Tweed River	26,475	Hours	619	90	172	81	32	143	42	1,179	
			%	53	8	14	7	3	12	3	100	
"Beta" . .	Cape Hawke	11,550	Hours	594	8	19	22	6	538	..	1,187	Periodical overhaul effected.
			%	50	·5	2	2	·5	45		100	
"Gamma" .	Hastings River	20,950	Hours	778	9	13	135	44	192	..	1,171	
			%	66	1	1	12	4	16	..	100	
"Delta"	Paterson and Hunter Rivers.	27,380	Hours	739	25	92	76	256	117	100	1,405	Working two shifts for one month and one shift for five months.
			%	53	2	7	5	18	8	7	100	
"Zeta"	Fishery Creek, Richmond River.	35,924	Hours	1,284	..	23	26	.	178	164	1,675	Working two shifts for three months and one shift for three months.
			%	77	.	1	1	..	11	10	100	
"Eta" ...	Camden Haven	16,300	Hours	794	39	22	.	.	290	50	1,195	Periodical overhaul effected.
			%	67	3	2		.	24	4	100	
"Theta"	Eatonsville Falls and Court-house Rocks, Clarence River.	5,585	Hours	405	6	32	174	.	104	575	1,296	
			%	31	5	2·5	13	.	8	45	100	
"Iota"	Nambucca River	23,002	Hours.	717	6	24	43	..	342	23	1,155	Periodical overhaul effected.
			%	62	·5	2	3·5		30	2	100	
"Kappa" ..	Long Cove Bay . ..	50,945	Hours	1,309	13	125	..	169	171	..	1,787	
			%	73	1	7		9	10	.	100	
"Mu"	Sydney Harbour and Myall River.	6,895	Hours	391	6	130	66	137	264	98	1,092	Periodical overhaul effected.
			%	36	·5	12	6	12 5	24	9	100	
"Nu"	Sydney Harbour	10,340	Hours	478	6	154		73	92	4	807	
			%	59	1	19	.	9	11	1	100	
"Omicron" ...	Cook's River	24,722	Hours	989	5	13	..	120	65		1,192	
			%	83	·5	1	..	10	5·5	.	100	
"Pi"	Moruya River . .	27,680	Hours	549	69	76	21	2	415	71	1,203	Periodical overhaul effected.
			%	46	6	6	2	.	34	6	100	
"Sigma" .. .	Myall River	1,310	Hours	66	16	123	225	16	31	9	486	
			%	14	4	25	46	3	6	2	100	
"Rho"	Newcastle Harbour ..	11,630	Hours	755	11	82	111	43	110	74	1,186	
			%	64	1	7	9 5	3	9 5	6	100	
"Tau"	Bingal and Leycester Creeks, Richmond River.	12,307	Hours.	675	24	94	22	32	184	195	1,226	Periodical overhaul effected.
			%	55	2	8	1·5	2 5	15	16	100	
"Chi"	Bellinger River .	58,245	Hours..	1,874	18	114	69	73	374	13	2,535	
			%	74	1	4	2 5	3	15	5	100	
"Omega" . .	Court-house Rocks, Mangrove Creek, &c, Clarence River.	22,510	Hours	835	21	60	46	..	43	194	1,199	
			% ..	70	2	5	4	..	3	16	100	
		393,750										

STATEMENT of Sand-pump Dredge Work for the first six months of 1895.

Dredge.	Where Dredging.	Estimated Tons raised.	Hours and Per-centage.	Detail of Working Hours. Dredging.	Coaling, &c.	Removals.	Bad Weather.	Waiting Silt.	Repairs	Other Causes.	Total, Working Time.	Remarks.
"Neptune" ..	Rozelle Bay	92,960	Hours .	664	9	110	.	..	65	8	856	Working two shifts for two months.
			% .	77	1	13		..	8	1	100	
"Juno".. ...	Carrington, Newcastle ..	145,600	Hours..	728	..	226	13	..	214	5	1,186	
			% ..	61	.	19	1 5	..	18	·5	100	
"Jupiter" ..	Rozelle Bay	94,800	Hours	475	11	230	3	..	75	18	812	
			%	59	1	29	..	..	9	2	100	
"Actor" . .	Tweed River	114,400	Hours	571	26	162	112	..	228	9	1,168	
			% ..	49	2	14	10	..	24	1	100	
"Alesus".....	Macleay and Nambucca Rivers.	197,800	Hours.	989	64	457	258	.	373	11	2,152	Working two shifts Removed from Macleay to Nambucca River.
			% ..	46·5	3	21	12	..	17	·5	100	
"Dorus" . .	Stockton, Newcastle ...	170,000	Hours.	849	33	172	48	..	85	3	1,190	
			% ..	72	3	14	4	..	7	.	100	
"Dictys".. ...	Ballina, Richmond River	69,300	Hours .	495	33	285	30		272	46	1,161	Working part of time in rough water near bar.
			% .	43	3	24	3	.	23	4	100	
"Groper"	Long Cove Canal	209,250	Hours..	558	..	103	4	203	291	29	1,188	
			% ..	47	..	9	..	17	25	2	100	
		1,094,110										

Total tons dredged by Ladder, Sand-pump, and Grab Dredges during year 1894 ..... 6,364,961 tons.
" " " " half-year 1895 ..... 3,443,745 tons.

AVERAGE Cost of Dredging and Conveying, 1892, 1893, 1894.

Class of Dredge.	Tons Dredged.	Hours Dredging.	Dredging only. Expenditure.	Average Cost per ton.	Average Cost per hour.	Dredging and Towing. Expenditure.	Average Cost per hour.	Remarks.
1892.			£ s. d.		£ s. d.	£ s. d.		
Ladder dredges	3,526,250	24,443	52,408 3 4	3·566	2 2 11	74,505 10 8	5·070	
Sand-pump dredges ..	2,163,750	11,693	16,728 3 9	1·855	1 8 7	16,728 3 9	1 855	
Grab dredges	996,251	36,514	18,359 2 10*	4 422	0 10 1	18,359 2 10	4·422	*Cost of dredging and towing separately is not given in this return.
	6,686,251	72,650	87,495 9 11	3·140	1 4 1	109,592 17 3	3·934	
1893.								
Ladder dredges . ..	2,681,947	16,309	35,470 9 1	3·174	2 3 6	48,022 3 7	4·297	
Sand-pump dredges .	1,804,730	8,371	18,243 18 9	2·426	2 3 7	18,243 18 9	2 426	Cost includes depositing 141,080 tons at sea.
Grab dredges	767,497	25,100	15,265 5 3*	4·773	0 12 2	15,265 5 3	4 773	*Cost of dredging and towing separately is not given in this return.
	5,254,174	49,780	68,979 13 1	3·150	1 7 9	81,531 7 7	3·724	
1894.								
Ladder dredges ...	3,501,800	17,922	40,210 13 2	2·755	2 4 10	55,164 19 9	3·780	
Sand-pump dredges	2,273,975	10,691	21,648 15 8	1 942	2 0 6	21,648 15 8	1 942	Cost includes depositing 255,400 tons at sea.
Grab dredges	589,186	22,406	14,085 2 6	5·737	0 12 7	16,701 11 2	6·800	
	6,364,961	51,019	75,944 11 4	2·863	1 9 9	93,515 16 7	3·526	

(IX.)

REPORT BY THE PRINCIPAL ASSISTANT ENGINEER FOR COUNTRY TOWNS WATER SUPPLY AND SEWERAGE.

REPORT EIGHTEEN MONTHS, ENDING 30TH JUNE, 1895.

Western Suburbs Sewerage.

THE terminal section of the main outfall sewer has been completed, consisting of a triplicate 6-foot diameter circular sewer, carried upon segmental arches, having a span of 24 feet. This section extends across low-lying ground for a length of 28·75 chains, and reaches within the boundaries of the sewage farm.

In continuation of the above, the main carrier is now in course of construction across the sewage farm. The carrier, 40 chains in length, consists of an open composite trough, carried upon segmental concrete arches, having a span of 50 feet. The trough is constructed of concrete and wrought-iron, the wrought-iron being so distributed throughout the concrete as to aid the tensile strength. At intervals throughout the whole structure expansion joints of val de travers are provided to minimise the effect of varying temperature.

For the crossing of Muddy Creek a flume of wrought-iron has been provided. This is the first work of the kind undertaken in the Colony.

The aqueducts crossing Cook's River and Wolli Creek have been completed. These works consist of a triplicate 6-feet diameter wrought-iron sewer, carried upon segmental brick arches of 27 feet 6 inches span. The crossing of the water-ways is effected by two iron lattice girder bridges, of two 80-foot spans each. The centre piers are formed of cast-iron cylinders sunk in the usual way, the foundations of rock being reached at from 20 to 60 feet. The sewer is at present in duplicate, the triplicate efficiency not being required yet.

The main eastern branch and sub-mains, from the junction with the main outfall at Premier-street to Stanmore Road, is in course of construction and nearing completion. This section embraces a total length of 2 miles 8 chains of sewer, ranging in size from 6 ft. 8 in., by 5 ft. 8 in., to 3 ft. 3 in. by 2 ft. 2 in. In conjunction with this, portions of the western and northern branches, amounting in all to 16 chains of sewer, were also completed.

The continuation of the main eastern branch up to and along Parramatta Road is now in course of construction, and is making good progress. This section embraces a total length of 2 miles 59 chains of sewer, ranging in size from 4 ft. 6 in. by 3 ft. 6 in. to 12 in. diameter.

The Camden-street sub-main, a branch of the main eastern branch, is now in course of construction and nearing completion, embracing a total length of 1 mile 12 chains, of 3 ft. 3 in. by 2 ft. 2 in. sewer.

Thus the whole length of the main outfall is now completed. The arterial system of the main eastern branch is all in hand and nearing completion, with the exception of the low-level scheme for the drainage of Marrickville and St. Peters. For the latter, surveys and drawings have been made, the drainage area being 1,300 acres.

The completion of the current contracts on the eastern main branch system will enable the drainage of an area of 1,600 acres in the municipalities of Leichhardt, Petersham, and Marrickville.

For the drainage of the western suburbs surveys were made as follows :—

Deviation at crossing of Burwood Railway and re-indentification of original survey as far as the Canterbury branch. Survey of the northern branch, from Premier-street to New Canterbury Road; also a survey of a deviation from this sewer as originally laid down. In connection with the storm-water drainage, a survey was made of the Albert Road and Blanche-street branches of Homebush Creek storm-water channel; Beckett's Creek, Granville; and Shea's Creek, from M'Evoy-street to Baptist-street. Levels were taken on the more recent resumption at the Botany sewage farm for the preparation of a contour plan. A survey was made of Rockdale Creek, and contours were taken at Fivedock and Drummoyne.

Northern Main Sewer.

Contract drawings have been prepared and tenders invited for the construction of the aqueducts across Johnstone's and White's Creeks, and the portion of sewer in tunnel between them, comprising a length of 58·75 chains of sewer.

Estimates were made of the cost of extending the main northern sewer into Annandale and Balmain, a total length of 4½ miles of main sewer and branches, ranging in size from 4 ft. 6 in. by 3 ft. 6 in. to 9 in. in diameter.

Contract drawings were prepared for the Bay-street overflow sewer, a length of 60 chains, to the waters of Darling Harbour.

The contract drawings for the low-level scheme for the drainage of Double Bay have been completed and specification prepared.

In connection with the northern main sewer surveys were made for the drainage of the eastern slopes of Randwick and Waverley.

Southern Main Sewer.

Preliminary surveys were made for a line of sewer from the main outfall to drain Kensington Estate and parts of Waverley and Randwick.

Darling

Darling Harbour.

In connection with the proposed reclamation surveys were made and plans, drawings, and an estimate prepared of the probable cost of continuing the sewer and drains through the reclamation to the waters of the harbour.

North Shore Sewerage.

A portion of the main outfall sewer, from a point near the outlet at Long Bay, Middle Harbour, to Mount-street, together with branches, amounting in all to a length of 1 mile 25 chains, has been completed.

The continuation of the above towards the waters of Port Jackson, a further length of 1 mile, is now in course of construction and nearing completion, leaving, therefore, only the Blue's Point branch and the Kirribilli Point branch to complete the main arterial system.

Contract drawings have been prepared for the outlet works at Middle Harbour; the scheme adopted for the disposal of the sewage being based upon the intermittent filtration system, in which the solid matter is precipitated in settling tanks, and the lighter fluid allowed to flow off and filter through sand-beds, used in rotation; the solid matter being drawn off and carried to sea in punts.

The sewerage of the district known as the Holterman Estate has been completed, and is ready for connecting with the main outfall sewer as soon as the outlet works shall have been completed. This system consists of 2 miles 44 chains of 9-in. pipe-sewer, and 74 concrete manholes. The sewage is at present temporarily flowing into the waters of Port Jackson.

The sewerage of the district in the vicinity of Berry and M'Laren Strects has been completed, and is ready for connecting with the main outfall sewer. This system consists of 66 chains of 9-in. pipe-sewer and 34 concrete manholes. The sewage is at present temporarily flowing into the waters of Port Jackson.

In connection with the drainage of North Sydney surveys were made for the case Loxton *v.* Lyne at Neutral Bay; extension of the main outfall sewer to Milson's Point, with branches, Lavender and Blue-street sub-mains. Cross-sections were also made of the head of Willoughby Bay for the preparation of plans of outlet works, and the district to the north of Ernest-street was contoured.

Mosman.

A scheme was outlined, and an estimate made of the cost of the sewerage of the southern slopes of Mosman.

Necropolis Drainage.

The greater part of this work has been completed, and the final section is now in course of construction and nearing completion. The scheme consists of a main drain (which discharges into Haslam Creek) ranging in size from 3 ft. 3 in. by 2 ft. 2 in. oviform to 21-in. circular pipe-drain. Two branches, extending to the northern and western boundaries of the cemetery, receive the soakage from 6-in. diameter agricultural drains, laid along the boundaries of the cemetery, at a depth averaging a little over 6 feet.

Parramatta Drainage.

A section of Clay Cliff Creek storm-water channel 33 chains long, consisting of an open concrete drain, and an earth channel, ranging in size from 9 ft. 2 in. by 5 ft. 6 in. to 12 ft. 4 in. by 5 ft. 6 in., has been completed.

A second section of the Brickfield Creek storm-water channel is now in course of construction. This section consists of 6·21 chains of open and covered concrete channel, 10 ft. 6 in. by 6 ft. deep; and 10·8 chains of 24-in. diameter pipe-sewer.

The question of the sewerage of Parramatta was re-opened with the view to devising a scheme that would be less costly than the one previously submitted to the Parliamentary Standing Committee, and at the same time meet the present requirements. Estimates were prepared for dealing with the sewage by four different methods, as follows:—

1. A scheme, based upon the partially separate system, with sewage disposal works at Clay Cliff Creek.
2. The same system with sewage farm in lieu of disposal works.
3. Separate system with disposal works at Clay Cliff Creek.
4. Separate system with sewage treated on the farm.

In order that the question might be fully investigated it was necessary to perform a large amount of preliminary survey work, and also to prepare seventeen sheets of drawings. The proposals embrace 2 miles 62½ chains of main sewer, ranging in size from 18 inches to 9 inches in diameter; and 12 miles 23·6 chains of 9-inch reticulation sewers. Scheme No. 2 having been recommended by the Department as the most economical, the question now stands over pending a satisfactory agreement between the Government and the Parramatta Council—1st, as to the assessment of Government property, and, 2nd, with regard to the control of the works when completed.

At Parramatta surveys were made for the following:—Vallack's Creek storm-water channel; sewerage scheme of the town, including cross-section at the site of the farm; and Brickfield Creek storm-water channel.

Newcastle and Suburbs.

Estimates were made of the probable cost of the following storm-water drains:—Plattsburg and Wallsend, Pasturage Reserve, and Cottage Creek.

Plattsburg and Wallsend Drainage.

The Plattsburg and Wallsend storm-water channel for a length of 51·3 chains, consisting partly of an open concrete channel and partly of an open cutting, is in course of construction by day labour on the butty-gang system; 9,525 cubic yards of material having been excavated, at a cost of £604 14s. 7d. The construction of this channel necessitates the erection of several small wooden bridges and alterations to existing ones.

Pasturage

Pasturage Reserve Drainage.

The main outlet channel, a length of 1 mile 76 chains of open cutting, increasing in width from 60 feet at the upper end to 110 feet at the outlet into Throsby's Creek, is also in course of construction on the butty-gang system. The conditions of the country through which this drain runs necessitates the construction of two water cushion drops, to bring the water to the level of Throsby's Creek without permitting a destructive velocity; 41·652 cubic yards of material have already been removed at an expenditure of £2,608 12s. 11d. The opening of this drain necessitates the erection of six new bridges, including the viaduct of the Great Northern Railway (the present waterway of which is insufficient), and, in addition, alterations to Co-operative Coal Company's railway bridge. This class of work will be let by contract, tenders having been already called for the bridge at Broadmeadow Road.

Sandgate Cemetery.

The drainage of Sandgate cemetery is now completed, and giving entire satisfaction. This drain consists of 12·5 chains of 18-inch diameter pipes, and 18 chains of 12-inch diameter pipes, perforated to receive the soakage, and surrounded by broken stone of graduated gauge, to prevent the influx of sand.

Surveys.

Surveys were made in connection with the Plattsburg and Wallsend drainage, Cottage Creek stormwater.

Iron Cove Creek—two sections of concrete sewer, in all 71·91 chains in length, from 7 ft. 10 in. by 6 ft. elliptical to 3 ft. 2 in. circular.

Macdonaldtown Park, 13·44 chains of concrete sewer, 8 ft. 1 in. by 6 ft. elliptical to 24-in. pipe.

Randwick Road, near Kensington, 6·82 chains of circular concrete sewer, 5 ft. 6 in. diameter.

Stanmore Road, 4 chains of concrete circular sewer, 3 ft. diameter.

Long Cove Creek, second division, 42·56 chains of concrete sewer, from 8 ft. 11 in. by 6 ft. elliptical to 4 ft. 7 in. circular.

The following storm-water drains are in course of construction :—

Rushcutters' Bay and Point Piper Road, 72·63 chains of open and covered concrete channel, from 14 ft. 6 in. by 4 ft. 4 in. open to 3 ft. diameter circular.

Homebush Creek, 67·17 chains of covered concrete sewer, from 8 ft. 4 in. by 6 ft. to 4 ft. circular.

Iron Cove Creek, 64·25 chains of concrete circular sewer, from 3 ft. 2 in. to 3 ft.

Culvert under Beach-street, Coogee, 1 51 chains long.

Easton Park, Balmain, 6¼ chains, 2 ft. 6 in. diameter concrete sewer.

Surveys have been made, and drawings prepared, of the following storm-water drains :—

White's Creek, 38 chains of circular concrete sewer, from 4 ft. 8 in. to 3 ft. diameter.

Saltwater Creek, 35·73 chains of concrete and pipe sewer, from 4 ft. 4 in. to 9 in. diameter.

Alteration to Cottage Creek sewer, Abattoir Road, Balmain.

Channel and the Pasturage reserve drainage.

Narrandera Drainage.

Drawings were made and an estimate prepared of the cost of constructing a storm-water channel 47 chains long, from a point 5 chains above east to the creek. This drain consists of an open concrete channel from 6 to 8 feet wide and 4 feet deep, discharging into an open cutting which conducts the stormwater to the creek.

Nowra Drainage.

Surveys were made for the drainage of Worrigee Swamp, and an estimate made of its probable cost.

Orange Drainage.

A survey was made for a storm-water drain at Blackman's Creek.

Liverpool Drainage.

Preliminary surveys were made with a view to preparing a sewerage scheme for the town.

Maitland Drainage.

Preliminary surveys were made with the view to preparing a sewerage scheme for the town.

Storm-water Drains.

The following storm-water drains were completed within the Metropolitan area :—

Easton Park, Balmain, 8½ chains of concrete and pipe sewer, from 3 ft. 3 in. to 18 in. diameter.

Long Cove Creek, Henson-street Branch, 13·77 chains of pipe sewer, from 21 in. to 12 in. diameter.

Baptist-street, concrete sewer 37 chains long, from 9 ft. 1 in. by 6 ft. to 4 ft. 6 in. by 3 ft. 6 in. elliptical.

J. DAVIS,
Principal Assistant Engineer, Country Towns Water Supply and Sewerage.
The Engineer-in Chief for Public Works.

Roads and Bridges.

(X.)

REPORT OF THE PRINCIPAL ASSISTANT ENGINEER.

Sydney, 2 July, 1896.

I HAVE the honor to present for the Minister's information a report upon the work carried out by this branch for the eighteen months ending 30th June, 1895, together with tabulated statements of the expenditure for that period, the lengths of roads and bridges of various classes directly or indirectly under the charge of the Department, and other statistical information.

From these returns it will be seen that the expenditure on roads and bridges, including balances from 1893 votes, was £830,654 2s. 9d. Of this sum £797,592 9s. 6d. was derived from Consolidated Revenue, and £33,061 13s. 3d. from Loans.

These figures, it is pointed out, are for a period of eighteen months, so that an exact comparison with the figures given in last report cannot be made. Taking the average, however, the expenditure from 1st January, 1894, to 30th June, 1895, equals £553,769 8s. 6d. per annum, or a decrease on the expenditure for 1893 of £152,793 13s. 2d. per annum.

This reduction may be chiefly accounted for by the fact of this period of eighteen months having been generally favourable for road-making, and no floods of consequence having occurred; also, that expenditure has, with a view to economy, been restricted within the limits of most urgent requirements, and the cost of maintenance of roads reduced to the lowest possible limit compatible with efficiency.

The expenditure on roads, &c., from Revenue fell £261,883 19s. 6d. short of the sum made available by Parliament; this was carried forward. A sum of £122,020 19s. 10d. remained unexpended from Loan Votes, and was also carried forward.

Since last report considerable changes have taken place in the arrangement of the officers. The office of Divisional Engineer has been abolished, and this has necessitated a rearrangement of the staff. Mr. E. M. Allman, formerly in charge of the North-eastern Division, has been brought to Head Office, and is now styled Assistant Engineer. Mr. J. A. Rossbach, formerly Resident Engineer at Maitland, has also been brought to Head Office as Assistant Engineer. The other Divisional Engineers have been placed in charge of districts, and take the title of District Engineers. Mr. W. J. Hanna remains at Wagga Wagga, Mr. R. E. Jones at Muswellbrook, Mr. Stilwell has been removed to Orange, and Mr. W. A. Smith to St. Leonards.

Several resident engineers and assistants have been retired, which, with other minor alterations, has effected a considerable saving in the administration of the Department.

This new arrangement has effected a very marked improvement in carrying on the business of the Department, simplifying the mode of procedure and generally expediting work.

The ferries leased were 43 in number. Forty-two ferries were subsidised, and 9 were worked by the Department. The total revenue from all sources under this head was £7,750 3s. 3d.—while the cost of working was about £19,764.

With reference to the working of the Roads and Bridges Branch generally, I would again draw attention to the question of river bank protection as being worthy of special consideration. This matter was fully dealt with in last report. Since then, a little has been done in the way of Protective works, but the necessity for a general scheme of river protection under which the landowners will be compelled to bear part of the cost is as urgent as ever.

In this connection, reference might again be made to the custom of owners cutting drains across reserve roads in order to relieve their properties of flood water. Several cases of this kind have been taken into Court, and the prosecutions have been successful. It is hoped that this action may have some effect in putting a stop to a practice of the evil effects of which the Department has had many costly illustrations.

The regulation of the width of tires is an old question, but one which should again be referred to as requiring legislative action. With weights up to 15 tons on 3-inch tires, it may be seen how impossible it is to provide a road surface capable of satisfactory and economical maintenance. The result is serious injury to our roads, inland and coastal, entailing much more cost in their maintenance.

In this connection, an important matter which calls for attention is the increasing road competition with our railways.

This has been particularly conspicuous during 1894 and 1895, and as a result much extra expense has been entailed in the maintenance of several of our main roads; culverts that might have carried ordinary traffic for years, having had to be renewed or extensively repaired, and the roads otherwise having been extensively damaged.

It seems unreasonable to expect the Government to spend large sums of money on roads to injure their own property—the railways—and in dealing with projected roads, one of the first questions to be answered should be, whether they are likely to compete with or be feeders to the existing railways.

During 1894, an expenditure of £10,000 on relief works for the unemployed in the Metropolitan Division was authorised. This money was expended in reducing steep grades on many of the roads and metalling roads in important localities.

In carrying out these relief works, the co-operative or butty-gang system was adopted and had a fair trial. The whole of the work done was let to small gangs at prices based on departmental estimates, and although 380 men were employed in small gangs, averaging from ten to twenty-five men, the whole experiment, as far as the men were concerned, was a failure. The

The system in theory is very good, and under a capable leader, hard-working and competent men, should not only make wages but have in addition what would otherwise be the contractor's profit. Experience has shown, however, that in most cases in choosing their ganger the men have made an unwise selection, and his authority has been practically nil. Further, that in almost every gang there have been so many loafers that the average earnings of the workers have been reduced by 20 per cent. This system has been tried in other parts of the Colony with similar results.

Summarising the figures given in the tabulated statement attached, it will be seen that there are 36,070 miles 26 chains of roads under the direct or indirect charge of the Department. Of that length 26,180 miles 11 chains are on schedule, 8,950 miles 49½ chains are unclassified, and 939 miles 45½ chains are subsidised. Of the total length 11,979 miles 68 chains are bush tracks practically untouched, leaving 24,090 miles 38 chains of cleared, formed, or metalled roads.

* There are 2,675 bridges in the Colony, having 7,404 spans and a total length of 252,082 feet, or 47 miles 59½ chains. The culverts number 28,587, and have a total length of 79 miles 77¼ chains, and there are 12,383 causeways, measuring together 56 miles 17·15 chains.

There are 98 punts, 2 steam launches, 1 horse boat, and 187 other boats in use.

During the eighteen months 909 miles 48 chains of new roads were formed, metalled, or otherwise improved, and 1 mile 20 chains of culverts and 7 miles 38½ chains of causeways constructed.

The bridges erected are referred to further on.

The average number of men employed was 5,640—1,446 directly by the Department and 4,194 by contractors.

The distance travelled by the district officers and their assistants in the execution of their duties was 611,026 miles, 493,310 miles being by road and 117,716 miles by rail.

The Assistant Engineer for Bridges reports that 90 bridges were erected during the eighteen months ending 30th June, 1895, or were in course of erection at end of June, at a cost of £155,514.

The total length of these structures is 15,150 feet, the most important of those opened for traffic being Liverpool Bridge, George's River, 450 feet long, having five truss spans of 90 feet each; Tarraganda Bridge, Bega River, 1,106 feet long, having five truss spans of 90 feet each, and the remainder, beam spans; Tocumwal Bridge, over the Murray River, a lattice girder on cylinder piers, having a total length of 334 feet, and a steel lift span of 58 feet, to admit of steamers passing through the bridge.

The largest bridges in progress were the Wagga Wagga (Murrumbidgee River), 641 feet long; Inverell (M'Intyre River), 440 feet long; and Wilcannia (Darling River), 299 feet long. The two former have timber superstructures, supported upon iron cylinder piers, and have each three spans of 110 feet, the carriage-way being 24 ft. 4 in. wide, with one footway 4 ft. 6 in. wide. It will be seen, therefore, that the deck area is very great, being no less than 3,165 feet per span. The Wilcannia Bridge is an iron and steel structure, with lift span similar to the Tocumwal Bridge, referred to above.

Extensive repairs were also carried out to a large number of bridges.

884 tons of ironwork, manufactured in the Colony, were used in the Branch during the eighteen months, besides 130,095 cubic feet of timber for superstructure and 12,755 lineal feet of piling.

One of the most important matters in connection with the work done has been the introduction of the new form of truss referred to in last report, which is proving to be cheaper in construction, and promises to lessen the cost of maintenance. The through deck principle used in it, and the absence of heart timber in the trusses, are both great advantages over the old system, and the comparative ease with which the several timbers can be replaced should effect an important saving in future repairs.

Great attention has been paid to the selection of the timber used in the construction of new bridges, and it is confidently expected that this will result in the increased life of the structures.

PERCY SCARR,
Principal Assistant Engineer, Roads.

---

* A new classification has been adopted with regard to bridges and culverts. In this report, where bridges are mentioned, structures of 20 feet span and over are meant. All structures under 20 feet span are referred to as culverts.

(XI.)

REPORT OF THE ASSISTANT ENGINEER FOR BRIDGES.

To the Engineer-in-Chief for Public Works,—

Sir,

I have the honor to place before you the report of work done in this Sub-branch of the Department in the erection and repairs of iron, composite, timber truss, timber beam, and suspension bridges during the eighteen months ending 30th June, 1895, and I attach Appendices (marked A to E) giving a quantity of information in connection with the work done.

The salient points in connection with the work done have been the introduction of the new form of truss, designed under your instructions for spans of 70, 90, and 110 feet, and the very large and important repairs which have been carried out to existing structures.

With regard to the new form of truss, I am glad to report that it is cheaper in construction and promises well to lessen the cost of maintenance. The through deck principle used in it, and the absence of heart timber in the trusses are both great advantages over the old system, and the comparative ease with which the several timbers can be replaced should effect an important saving in future repairs.

As a comparison of the cost per foot run of the new and old system of truss, I find that about 1,800 running feet of truss bridge—new system—cost almost exactly £8 per foot run, while 1,200 running feet of truss bridge—old system—cost £9 5s. per foot run, a very satisfactory comparison.

Great attention has been paid to the selection of the timber, and I feel confident that the benefit of this care will be shown by the increased life of the structures recently built.

As to the repairs, they have been very extensive (notably at Pyrmont and Glebe Island Bridges, Singleton Bridge, Denison Bridge, Bathurst, and North Bourke Bridge), many timber bridges built from twenty to thirty years ago having needed a great deal of attention.

I do not think it necessary to comment in detail on the work carried out, as very full particulars are given in the appendices herewith, and you have personally inspected the works from time to time.

The officers employed continue to give me every satisfaction, and, as a result of organisation and increasing experience in their special work, can be relied on to render good service to the Department.

General.

The number of bridges in course of construction under my control during the eighteen months was twenty-five, estimated to cost, when completed, £118,473 16s. 3d. Of these three are wholly of iron, having a total length of iron bridgework of 691 feet; the remaining structures are timber, composite, and suspension, having a total length of 7,322 feet, making a gross total of 8,013 feet of bridgework, in approach to which 4,040 lineal yards of roadway have been constructed. Extensive repairs have also been carried out on twenty-five bridges, at a total cost of £30,151 6s. 9d. During the eighteen months several important bridges have been opened for public traffic.

The following lists give:—1st, those bridges completed during the eighteen months and opened for traffic; 2nd, those in progress and approximate date of completion; and 3rd, repairs to bridges completed and in hand. For more detailed information see Appendix "A."

No. 1 List.

Bridge.	River.	Cost.	Class.	Opened for traffic.
		£ s. d.		
Acramans	Burrowa	2,252 15 9	Timber truss..	21 Jan., 1894.
Cottage Lagoon	.....	387 3 3	Timber beam	2 Feb., 1895.
Camberwell	Glennie's Creek	2,155 8 10	Timber truss	13 Aug., 1894.
Dry River	Dry River	1,353 3 5	,,	9 Sept., 1894.
Gowrie-street, at	Singleton	386 12 4	Timber beam	3 June, 1895.
Hawkesview	Murray	2,001 9 5	Timber truss	30 Mar., 1895.
Lacey's Crossing	Wollondilly	1,258 3 2	Timber beam	7 Jan., 1895.
Liverpool River, ,, Railway	George's	11,939 10 10	Timber truss / Iron girder	3 April, 1894.
,, stormwater drain	,,	226 12 8	.....	16 Mar., 1894.
Mulwarrie Creek	Mulwarrie	1,231 15 5	Timber beam	10 May, 1895.
North's Siding, at	Katoomba	876 5 2	,,	1 Aug., 1894.
Redbourneberry extension	Hunter	1,216 5 2	,,	24 Dec., 1894.
Stoney Creek	Stoney Creek	1,233 12 10	Timber truss.	30 July, 1894.
Tarragandra	Bega	12,248 2 5	,,	3 Sept., 1894.
Tharwa	Murrumbidgee	4,858 1 4	,,	25 May, 1895.
Tocumwal	Murray	19,638 0 5	Iron lattice, with steel lift	5 April, 1895.
Tuena	Tuena Creek	178 15 9	Suspension	17 Oct., 1894.
Wybong Creek	Wybong Creek	2,504 5 4	Timber truss	12 ,, 1894.
Yarramunmun Creek	.....	1,484 19 5	,,	27 July, 1894.

No. 2 List.

Bridge.	River.	Cost.	Class.	Probable date of completion.
		£ s. d.		
Cuttaburra Creek	Edwards	2,300 0 0	Timber beam	Dec., 1895.
Deniliquin	,,	3,850 0 0	Timber truss	Jan., 1896.
Great Anabranch	Anabranch of the Darling	1,500 0 0	Timber beam	,, 1896.
Inverell	M'Intyre	10,610 0 0	Timber truss on cylinder piers	Mar., 1896.
Wagga	Murrumbidgee	14,000 0 0	,, ,,	Oct., 1895.
Wilcannia	Darling	19,000 0 0	Iron lattice, with steel lift	Dec., 1895.

No. 3 List—Repairs.

Bridge.	River.	Cost.	Class.	Completed, or to be completed.
		£ s. d.		
Belmore	Hunter	160 10 1	Iron, lattice girder	1 Jan., 1895.
Booral	Karuah	700 0 0	Timber truss	Oct., 1895.
Bourke	Darling	3,420 0 0	Iron, lattice, with steel lift	Jan., 1896.
Brewarrina	Barwon	675 0 0	,, ,,	,, 1896.
Bulga	Cockfighter's Creek	698 17 6	Timber truss	25 Aug., 1894.
Cowra (painting)	Lachlan	318 0 0	Composite truss	23 Oct., 1894.
Denison (Bathurst)	Macquarie	1,294 0 11	Iron, lattice girder	28 April, 1895.
Dunmore	Paterson	720 10 9	Iron girder on piles	10 June, 1895.
Erina Creek	Erina	142 7 3	Timber bridge, iron draw span	3 May, 1895.
Fitzroy (painting)	At Goulburn	158 14 6	Iron, lattice girder	30 June, 1895.
Glebe Island	Darling Harbour	3,587 17 11	Swing, with timber piers	9 Aug., 1894.
Hay	Murrumbidgee	1,150 0 0	Iron girder, with steel lift	Dec., 1895.
Inverell (old)	McIntyre	129 17 1	Timber truss	30 June, 1895.
Kangaroo Valley	Kangaroo	397 3 2	,,	12 Feb., 1894.
Mona Street	Duck	80 12 0	,,	3 May, 1894.
Drummoyne	Parramatta	1,200 0 0	Iron lattice, with steel swing	Dec., 1895.
Pyrmont	Darling Harbour	8,011 8 11	Swing, with timber piers	4 Aug., 1894.
Singleton	Hunter	1,194 7 1	Timber truss and iron girder	7 June, 1895.
Vale Creek	Vale Creek	100 18 3	Iron girder	17 April, 1895.
Wagga (old)	Murrumbidgee	115 9 2	Timber truss on timber piers	30 June, 1895.
Warkworth	Cockfighter's Creek	175 4 10	Timber truss	18 May, 1895.
Wellington	Macquarie	698 0 0	,,	7 Dec., 1894.
Windsor	Hawkesbury	3,250 0 0	Iron girder	June, 1896.
		£147,070 2 7		

Ironwork.

Appendix "C" shows the quantity of ironwork inspected during the eighteen months, amounting to some 884 tons, valued at £17,645, manufactured in the Colony, out of which 410 tons were manufactured from imported material.

Timber.

Appendix "D" shows the quantity of timber inspected during the eighteen months, and represents practically the whole of the timber which passed through Sydney and Newcastle for the use of the Roads and Bridges Branch of the Department.

It will be seen from the totals that this is an important item, amounting to no less than 130,095 cubic feet of selected ironbark for truss and girder work, and tallow-wood, &c., for flooring, and 12,755 lineal feet of ironbark for piles.

Borings.

The boring gang was occupied for a portion of the eighteen months only in making trial borings in connection with the preparation of estimates for Pyrmont and Glebe Island Bridges for submission to the Public Works Committee, and for several bridges in contemplation. The depth of borings was 2,185 lineal feet; for cost of same, see Appendix "E."

Expenditure.

Appendix "B" shows the expenditure for the eighteen months in detail.

The total sum paid upon works in progress amounted to £79,873 11s. 7d. In addition to this expenditure, vouchers amounting to £50,937 8s. 9d., for smaller bridges, have been received from the Divisional Engineers for the six divisions of the Colony to be technically examined and entered against the respective works.

Salaries.

The staff employed in connection with this Sub-branch of the Department consists of twenty officers in the field and four in the office. The salaries paid are 9½ per cent. on the actual expenditure for the eighteen months. It must be distinctly understood that the percentage given is calculated upon the net sum paid on account of works in progress, no account having been taken of the time spent in examining vouchers, amounting to £50,937 8s. 9d., for bridges not under my immediate control, nor of the time occupied in arriving at settlements in cases where disputes have arisen on these contracts, or in general work or special reports.

E. M. deBURGH,
Assistant Engineer for Bridges, 23/9/95.

Engineer-in-Chief for Public Works.

Appendix A.

Details of Bridges constructed and in course of construction from 1st January, 1894, to 30th June, 1895, including structures repaired.

Bridge.	Description.	Length of Bridge.	Length of Approaches.	Total length.	Contract value or estimated cost.	Estimated cost of works not completed.	Total cost of works completed.	Remarks.	
					£ s. d.	£ s. d.	£ s. d.		
Belmore (repairs)	Iron, lattice girder	595 feet	.....	595 feet	150 0 0	.....	160 10 1	Completed	9 Jan., 1895.
Booral ,,	Timber truss	320 ,,	.....	320 ,,	700 0 0	700 0 0	.....	To be completed...	Oct., 1895.
Bourke ,,	Iron, lattice, steel lift	674 ,,	.....	674 ,,	3,420 0 0	3,420 0 0	.....	,, ...	Jan., 1896.
Brewarrina ,,	,, ,,	372 ,,	.....	372 ,,	675 0 0	675 0 0	.....	,, ...	,,
Bulga ,,	Timber truss	315 ,,	38 feet	353 ,,	700 0 0	.....	698 17 6	Completed	25 Aug., 1894.
Burrowa, at Acramans	,,	220 ,,	371 ,,	591 ,,	2,007 2 11	.....	2,252 15 9	,,	21 Jan., 1894.
Cottage Lagoon	Timber beam	125 ,,	121 ,,	246 ,,	341 7 1	.....	387 3 3	,,	16 Feb., 1895.
Cowra (painting)	Composite truss	1,048 ,,	496 ,,	1,544 ,,	314 1 0	.....	318 0 0	,,	23 Oct., 1894.
Cuttaburra Creek	Timber beam	355 ,,	504 ,,	859 ,,	1,976 12 0	2,300 0 0	.....	To be completed...	Dec., 1895.
Deniliquin	,, truss	540 ,,	170 ,,	710 ,,	3,382 7 10	3,850 0 0	.....	,, ...	Jan., 1896.
Denison (repairs)	Iron, lattice girder	472 ,,	.....	472 ,,	1,500 0 0	.....	1,294 0 11	Completed	28 April, 1895.
Dry River	Timber truss	185 ,,	187 feet	372 ,,	1,144 8 7	.....	1,353 13 5	,,	12 Sept., 1894.
Dunmore (repairs)	Iron, with timber piers	401 ,,	.....	401 ,,	700 0 0	.....	720 10 9	,,	10 June, 1895.
Erina Creek ,,	Timber, iron draw span	171 ,,	.....	171 ,,	330 0 0	.....	142 7 3	,,	3 May, 1895.
Fitzroy (painting)	Iron, lattice girder	300 ,,	.....	300 ,,	300 0 0	.....	158 14 6	,,	30 June, 1895.
Glebe Island (repairs)	Swing, timber piers	1,042 ,,	.....	1,042 ,,	4,300 0 0	.....	3,587 17 11	,,	9 Aug., 1894.
,, (maintenance)	,, ,,	.....	.....	.....	330 0 0	.....	330 0 0	,, ... to	30 June, 1895.
Glennies Creek	Timber truss	310 feet	230 feet	540 feet	2,026 10 0	.....	2,155 8 10	,,	13 Aug., 1894.
Gowrie-street, Singleton	,, beam	100 ,,	.....	100 ,,	386 12 4	.....	431 4 3	,,	3 June, 1895.
Great Anabranch	,, ,,	335 ,,	452 feet	787 ,,	1,316 14 7	1,500 0 0	.....	To be completed...	Jan., 1896.
Hawksview	,, truss	240 ,,	393 ,,	633 ,,	1,751 1 4	.....	2,001 9 5	Completed	30 Mar., 1895.
Hay	Iron, lattice, steel lift	242 ,,	.....	242 ,,	1,150 0 0	1,150 0 0	.....	To be completed...	Dec., 1895.
Inverell	Timber truss, cylinder piers	441 ,,	530 feet	971 ,,	9,859 9 6	10,610 0 0	.....	,, ...	Mar., 1896.
,, (old bridge repairs)	,,	360 ,,	.....	360 ,,	160 0 0	.....	129 17 1	Completed	30 June, 1895.
Kangaroo Valley (repairs)	,,	200 ,,	.....	200 ,,	400 0 0	.....	397 3 2	,,	12 Feb., 1894.
,, (borings)	.....	.....	.....	.....	76 0 0	.....	76 14 8	,,	6 April, 1895.
Kempsey borings and survey	.....	.....	.....	.....	250 0 0	.....	324 18 9	,,	22 Feb., 1895.
Lacey's Crossing	Timber beam	275 feet	1,033 feet	1,308 feet	781 0 4	.....	1,258 3 2	,,	7 Jan., 1895.
Liverpool (river)	,, truss	450 ,,	662 ,,	1,112 ,,	9,250 17 6	.....	11,939 10 10	,,	3 April, 1894.
,, (railway)	Iron girder	58 ,,	672 ,,	730 ,,	240 0 0	.....	226 12 8	,,	16 Mar., 1894.
,, (storm-water drain)	.....	.....	.....	.....	50 0 0	.....	80 12 0	,,	3 May, 1894.
Mona-street (repairs)	Timber truss, cylinder piers	270 feet	66 feet	336 feet					

DETAILS of Bridges constructed, &c.—*continued.*

Bridge.	Description.	Length of Bridge.	Length of Approaches.	Total length.	Contract value or estimated cost.	Estimated cost of works not completed.	Total cost of works completed.	Remarks.	
					£ s. d.	£ s. d.	£ s. d.		
Morpeth (borings)	.....	.....	.....	.....	100 0 0	.....	91 14 4	Completed	18 Feb., 1895.
Mulwarrie Creek	Timber beam	270 feet	582 feet	852 feet	1,010 10 10	.....	1,231 15 5	,, ...	10 May, 1895.
North's Siding	,, skew	38 ,,	430 ,,	468 ,,	642 4 6	.....	876 5 2	,, ...	1 Aug., 1894.
Parramatta (repairs)	Iron, lattice, steel swing	873 ,,	.....	873 ,,	1,200 0 0	1,200 0 0	.....	To be completed...	Dec., 1895.
,, (maintenance)	,, ,, ...	.....	.....	.....	600 0 0	.....	600 0 0	Completed .....to	30 June, 1895.
Pyrmont (repairs)	Swing, timber piers	1,079 feet	.....	1,079 feet	4,500 0 0	.....	8,011 8 11	,, ...	4 Aug., 1894.
,, (maintenance)	,, ,, ...	.....	.....	.....	570 0 0	.....	570 0 0	,, ...to	30 June, 1895.
Redbourneberry extension	Timber beam	260 feet	.....	260 feet	1,032 6 9	.....	1,225 11 2	,, ...	24 Dec., 1894.
Singleton (repairs)	Iron girder, timber truss	520 ,,	.....	520 ,,	1,234 0 0	.....	1,194 7 1	,, ...	7 June, 1895.
Stoney Creek	Timber truss	120 ,,	276 feet	396 ,,	1,047 13 6	.....	1,233 12 10	,, ...	30 July, 1894.
Tarraganda	,, ...	1,266 ,,	2,607 ,,	3,873 ,,	9,855 19 7	.....	12,248 2 5	,, ...	3 Sept., 1894.
Tharwa	,, ...	595 ,,	764 ,,	1,359 ,,	4,469 14 10	.....	4,858 1 4	,, ...	25 May, 1895.
Tocumwal	Iron, lattice, steel lift	334 ,,	547 ,,	881 ,,	16,226 19 7	.....	19,635 0 5	,, ...	5 April, 1895.
,, (maintenance)	,, ,, ,, ...	.....	.....	.....	22 15 0	.....	22 15 0	,, ...to	30 June, 1895.
Tuena Footbridge	Suspension	125 feet	.....	125 feet	150 0 0	.....	178 15 9	,, ...	17 Oct., 1894.
Vale Creek Footway	Iron girder	75 ,,	.....	75 ,,	100 0 0	.....	100 18 3	,, ...	17 April, 1895.
Wagga	Timber truss, cylinder piers.....	642 ,,	900 feet	1,542 ,,	12,604 5 9	14,000 0 0	.....	To be completed...	Oct., 1895.
,, (old bridge maintenance)	,, ,, ,, ...	.....	.....	.....	115 0 0	.....	115 9 2	Completed .....to	30 June, 1895.
Wallaby Rocks (borings)	.....	.....	.....	.....	63 0 0	.....	63 8 11	,, ...	14 June, 1895.
Wallis Creek ,,	.....	.....	.....	.....	25 0 0	.....	22 4 9	,, ...	7 Mar., 1895.
Warkworth (repairs)	Timber truss	318 feet	.....	318 feet	180 0 0	.....	175 4 10	,, ...	18 May, 1895.
Wellington ,,	,, ...	610 ,,	.....	610 ,,	700 0 0	.....	698 0 0	,, ...	7 Dec., 1894.
Wentworth (maintenance)	,, steel lift	591 ,,	682 feet	1,273 ,,	250 0 0	.....	249 12 4	,, ...to	30 June, 1895.
Wilcannia	Iron, lattice, ,, ...	299 ,,	314 ,,	613 ,,	13,722 8 4	19,000 0 0	.....	To be completed...	Dec., 1895.
Windsor (repairs and raising)	Iron girder on cylinders	452 ,,	.....	452 ,,	3,250 0 0	3,250 0 0	.....	,, ...	June, 1896.
Wybong Creek	Timber truss	290 ,,	250 feet	540 ,,	2,045 12 6	.....	2,504 5 4	Completed	12 Oct., 1894.
Yarramunmun Creek	,, ...	140 ,,	126 ,,	266 ,,	969 5 8	.....	1,484 19 5	,, ...	27 July, 1894.
		19,313 feet	13,403 feet	32,716 feet	126,656 1 10	61,655 0 0	87,817 9 0		

The total lengths of bridges constructed and in course of construction are made up as follows:—

Iron	691 feet.	Beam	4,170 feet	} Total, 8,138 feet.
Truss	3,052 ,,	Suspension	125 ,,	

Appendix B.

Payments made on works in progress and vouchers for smaller bridges received from Resident Engineers of the Colony from 1st January, 1894, to 30th June, 1895.

Contract or Work	Payments made			Expenditure in Day Labour Works	Total Expenditure	How Constructed	Remarks
	Section I	Section II	Incidentals				
	£ s d	£ s d	£ s d	£ s d	£ s d		
Belmore (repairs)				160 10 1	160 10 1	Day labour	Vouchers for smaller bridges received from the Resident Engineers duly checked and entered, £50,937 3s 9d
Booral do				95 17 0	95 17 0	do	
Bourke do				270 12 11	270 12 11	do	
Brewarrina do				57 15 6	57 15 6	do	
Bulga do				698 17 6	698 17 6	do	
Burrowa, at Acraman s		1 679 15 9	186 0 0		1,865 15 9	Contract	
Cottage Lagoon		387 3 3			387 3 3	do	
Cowra (painting)		318 0 0	22 0 0		340 0 0	do	
Cuttaburra Creek		252 0 0	23 9 10		275 9 10	do	
Deniliquin		261 0 0	60 10 0		321 10 0	do	
Denison (repairs)				1,294 0 11	1,294 0 11	Day labour	
Dry River		999 5 11	154 17 6		1,154 3 5	Contract	
Dunmore (repairs)				715 11 9	715 11 9	Day labour	
Erina Creek (repairs)				142 7 3	142 7 3	do	
Fitzroy (painting)				158 14 6	158 14 6	do	
Glebe Island (repairs)				3 358 9 5	3 358 9 5	do	
Do (maintenance)				282 9 6	282 9 6	do	
Glennie's Creek		2,053 0 10	102 8 0		2 155 8 10	Contract	
Gowrie street		431 4 3			431 4 3	do	
Great Anabranch						do	
Hawksview		1,796 17 10	204 11 7		2 001 9 5	do	
Hay (repairs)				255 13 4	255 13 4	Day labour	
Inverell		898 0 0	123 15 4		1,021 15 4	Contract	
Do old (repairs)				129 17 1	129 17 1	Day labour	
Kangaroo Valley (repairs)				397 3 2	397 3 2	do	
Do do (borings)				76 14 8	76 14 8	do	
Kempsey (borings and survey)				324 18 9	324 18 9	do	
Lacey's Crossing		970 11 3	287 11 11		1,258 3 2	Contract	
Liverpool		3,939 10 3	134 19 10		4,074 10 1	do	
Do (stormwater drain)				226 12 8	226 2 8	Day labour	
Mona street (repairs)				60 0 10	60 0 10	do	Salaries paid, £7,630 5s 6d, equal to (say) 9 61 per cent Total expenditure for the 18 months, £79,873 11s 7d
Morpeth (borings)				91 14 4	91 14 4	do	
Mulwarrie Creek		1,102 3 5	129 12 0		1,231 15 5	Contract	
North's Siding		843 16 4	33 17 10		877 14 2	do	
Parramatta Swing (repairs)				291 14 4	291 14 4	Day labour	
Do do (maintenance)				54 18 0	54 18 0	do	
Pyrmont (repairs)				5,673 3 1	5,673 3 1	do	
Do (maintenance)				594 7 0	594 7 0	do	
Redbourneberry (extension)		1,057 1 5	159 13 3		1,216 14 8	Contract	
Singleton (repairs)				1,194 7 1	1,194 7 1	Day labour	
Stoney Creek		160 6 5	906 12 10		1,066 19 3	Contract, completed day labour	
Tarraganda		4,263 15 0	296 0 9		4,559 15 9	Contract	
Tharwa		4 065 13 6	252 7 10		4 858 1 4	do	
Tocumwall	9,011 8 5	4,167 13 7	431 5 8		13,610 7 8	do	
Do (maintenance)				22 15 0	22 15 0	Day labour	
Tuena Foot bridge				178 15 9	178 15 9	do	
Vale Creek Foot way				100 18 3	100 18 3	do	
Wagga	2,540 13 0	7,405 14 0	839 16 10		10,786 3 10	Contract	
Do (maintenance)				115 9 2	115 9 2	Day labour	
Wallaby Rocks (borings)				63 8 11	63 8 11	do	
Wallis Creek do				22 4 9	22 4 9	do	
Warkworth (repairs)				175 4 10	175 4 10	do	
Wellington do				698 19 10	698 19 10	do	
Wentworth (maintenance)				249 12 4	249 12 4	do	
Wilcannia		2,750 0 0	606 7 2		3,41 7 2	Contract	
Windsor (repairs)				744 15 0	744 15 0	Day labour	
Do (raising)							
Wybong Creek		2 300 5 2	204 0 2		2,504 5 4	Contract	
Yarramunmun Creek		1,357 18 2	127 1 0		1,484 19 2	do	
	11,552 1 5	44 005 16 4	5,336 19 4	18 978 14 6	79,873 11 7		

Appendix C.

Inspection of Ironwork from 1st January, 1894, to 30th June, 1895.

Description.	Weight.	Value.	Cost of Inspection.
	tons c. qr. lb.	£ s. d.	£ s. d.
Total bridge ironwork manufactured in Colony to contractors' orders.....	234 4 3 27	4,099 7 6	
,, ,, ,, order of Department...	33 17 3 23	661 0 0	
Total ironwork in Tocumwal Bridge, made in Sydney from imported material	409 11 2 24	8,250 16 10	554 7 6
Total ironwork in Wagga Bridge, made in Sydney from material rolled in New South Wales	205 19 0 20	4,634 1 6	
	883 13 3 10	17,645 5 10	554 7 6

	£ s. d.
Total value ironwork inspected.....	17,645 5 10
Total cost of inspection	554 7 6

Percentage of cost of inspection to value = 3·14 %.

Appendix D.

Inspection of Timber, from 1st January, 1894, to 30th June, 1895.

Timber Inspected.	Lineal Feet.	Cubic Feet.	Approximate Value.	Cost of Inspection.
			£ s. d.	£ s. d.
For Contractors' and Departmental use	12,755	122,177	13,493 4 0	601 14 9
For English Market, by special request of Sydney Agents, from 1 March to 30 June, 1895	.....	7,918	791 16 0	
	12,755	130,095	14,285 0 0	601 14 9

	£ s. d.
Total value of timber inspected	14,285 0 0
Total cost of inspection.....	601 14 9

Percentage of cost of inspection to value of timber = 4·20 %.

Appendix E.

Borings taken from 1st January, 1894, to 30th June, 1895.

Locality.	No. of Bores taken.	Depth.	Total Cost.	Cost per foot run.
			£ s. d.	£ s. d.
Darling Harbour	58	1,351	516 5 4	0 7 7½
Kangaroo River	5	129	76 14 8	0 11 10
Wallis Creek	1	53	22 4 9	0 8 5
Wallaby Rocks	10	220	63 8 11	0 5 9
*Kempsey	11	257	324 18 9	1 5 3
Morpeth.....	9	175	91 14 4	0 10 5
	94	2,185	1,095 6 9	Average say, 0 11 7

* Bores in deep water with strong currents.

(XII.)

RETURN of Public Works carried on by Roads and Bridges and Sewerage Branch, from 1st January, 1894, to 30th June, 1895.

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES.					
Ash Island Roads	Maintenance, repair, and construction.	Consolidated Revenue.	1892	617 1 2	117 10 0
Aberdeen, up Rouchel Brook, to Scrumlow			1882	3,674 10 5	533 6 0
Attunga to Somerton			1887	748 16 4	89 17 4
Amosfield towards Stanthorpe			1894	2,342 1 4	126 13 6
Amosfield to Acacia Creek			1890	2,889 0 4	703 10 6
Acacia Creek, &c., to Tooloom			1895	9 9 0	9 9 0
Acacia Creek, *via* Korelah, to White Swamp			1888	2,092 0 3	347 18 2
Acacia Creek Bridge to New Korelah			1895	21 12 0	21 12 0
Armidale and Kangaroo Hills to Donald's Public School			"	15 18 2	15 18 2
Armidale to Long Swamp			1887	607 18 9	89 1 5
Armidale and Long Swamp Road towards Mount Rowans			1895	7 0 0	7 0 0
Armidale to Mihi Creek			1879	3,327 12 3	145 16 6
Armidale to Grafton, *via* Hillgrove and Perrett's			1864	97,214 12 8	1,917 3 9
Armidale to Yarrowick			1884	2,412 5 11	199 4 6
Armidale Road to Taylor's Arm			1894	1,104 3 4	469 19 6
Armidale Road to Wabra			1890	31 14 1	31 14 1
Armidale to Kangaroo Hills			1886	3,752 6 11	462 7 0
Armidale District Roads			1890	1,432 0 1	404 14 11
Armidale to Head of Hickey's Creek			1894	1,177 18 11	119 5 5
Armidale Road, *via* Bellbrook Ford to M'Kenzie's Creek			1895	70 1 8	70 1 8
Armidale to Eastern Plains			1888	2,405 9 6	364 3 3
Armidale and Eastern Plains to Brushy Creek			1895	26 3 0	26 3 0
Armidale to Gostwyck			1884	1,835 2 8	135 14 7
Armidale and Inverell Road past Bailey's Farm			1895	40 11 0	40 11 0
Armidale to Duval			1890	318 1 7	49 19 0
Armidale and Kelly's Plains to Bald Knob			1894	151 13 0	151 13 0
Armidale to Castle Doyle			1886	1,011 3 0	119 0 11
Ashlea, *via* Marlee, to Upper Dingo Creek			1892	754 13 5	264 16 6
Alicetown to Tea Gardens			1891	744 4 5	160 0 0
Adamstown to Lake Macquarie			1885	5,117 2 0	837 19 5
Arnold's to Appletree Flat			1874	17,954 10 10	794 0 9
Anderson's to Macleay Heads			1892	693 9 3	266 2 9
Alstonville to Booyong Railway Station			1895	41 0 0	41 0 0
Alstonville Booyong Road to Teven Junction			"	54 1 6	54 1 6
Appin to Brooks' Point			1884	498 1 1	59 16 10
Adaminaby, *via* Eaglehawk, to Jindabyne			1888	430 18 0	116 4 0
Adelong to Main South Road at Williams'			1874	5,711 0 5	266 8 0
Adelong to Sharp's Creek			1891	143 15 0	19 17 6
Adelong Crossing to Bago			1892	1,639 0 6	729 1 0
Albury to Urana			1872	26,203 7 2	1,462 19 10
Albury and Corowa Road to Urana			1874	19,805 2 9	1,216 3 5
Albury to Boomanamana			1864	72,846 12 2	2,650 14 6
Albury to Cookardina			1892	1,539 14 9	492 6 0
Araluen to Moruya			1865	31,352 6 8	792 1 10
Araluen-street, Etrington			1895	23 7 0	23 7 0
Argyle Road to Burradoo			1894	80 0 0	80 0 0
Alick's Creek to Bloomhill			1892	93 2 2	59 8 8
Abattoirs Road			"	644 1 7	192 8 5
Auburn Road			1894	55 0 0	55 0 0
Byangum up Middle Arm			"	156 0 0	156 0 0
Byangum to Dunbible Creek			1892	206 6 9	78 18 0
Burringbar to Moball			1888	1,027 0 1	193 14 4
Burringbar to Upper Burringbar			1894	79 14 3	79 14 3
Billinudgell to Pocket			"	190 11 4	190 11 4
Bexhill to Woodlawn			1891	223 5 6	51 9 6
Bexhill to Monticollum Road			1884	6,336 13 8	673 16 0
Bexhill to Priddle's			1881	10,471 10 8	578 12 2
Bexhill to Numulgi School and Cross' Selection			1890	369 12 4	91 13 10
Ballina District Roads			1893	755 12 4	362 1 8
Ballina to Byron Bay and Tintenbar			1883	15,386 13 6	962 10 1
Ballina to Tenterfield			1891	29,448 2 4	6,368 6 6
Ballina, *via* North Creek, to Byron Bay			1887	3,175 11 5	455 16 10
Brookfield to Pine Brush			1895	20 0 0	20 0 0
Boggy Creek to Cottees			1892	139 18 3	139 18 3
Blakebrook to Dunoon			1890	512 14 0	65 16 1
Blakebrook to Petersen's			1894	211 3 3	211 3 3
Brunswick Road, *via* Possum Shoot, to Byron Bay			1892	1,241 1 5	128 8 2
Brunswick Road Wharf to Garven's			1895	43 1 8	43 1 8
Brunswick Road to Ballina Road			"	30 0 0	30 0 0
Bay-street, Byron Bay			"	27 10 0	27 10 0
Boogaldie towards Pilliga			1893	96 18 0	88 3 0
Brush Grove *via* Bluff Point to Maclean			1887	1,535 0 9	446 0 9
Brush Grove to Maclean's			1890	969 1 5	198 1 5
Barney Downs to Millera			1883	2,955 18 10	314 1 10
Borah to Lowe's Creek Station, Quirindi			1895	50 0 0	50 0 0
Bingera to Top Bingera			"	26 7 0	26 7 0
Bingera to Warialda			1884	8,175 14 2	1,182 9 4
Bingera to Bundarra			1878	5,066 12 10	376 2 5
Bingera to Barraba			1891	5,476 15 8	1,895 12 11
Bingera to Moree			1878	12,340 0 8	1,256 17 9

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount Expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Bingera, *via* Pallal, to Eulowrie			1888	969 8 8	109 4 0
Black Creek, *via* Pretty Gully, to Tooloom			1891	1,241 5 11	275 1 5
Black Mountain to Ben Lomond			1894	431 0 4	431 0 4
Bendemeer to Bundarra Crossing to Carlyle Gully			„	10 0 0	10 0 0
Bendemeer to Retreat Station			1891	386 8 0	80 0 0
Bendemeer Flat to Walcha Road			1894	49 19 6	49 19 6
Brookstead to Gara			1891	159 3 6	40 9 0
Bow to Idaville			1893	166 13 0	6 13 0
Bukkulla Vineyard to Oakey Creek at Severn River			1895	10 7 0	10 7 0
Bobbiwoa Creek to Rocky Creek			1893	544 13 7	277 8 6
Booralong towards Aberfoyle			1888	1,349 4 8	201 9 4
Boyles to Tyagarah			1894	170 7 4	170 7 4
Burns Point Ferry Approach			1895	109 14 0	109 14 0
Barlow's Mill to Howard's			1894	44 14 2	44 14 2
Balmain to Gramen			1895	10 10 0	10 10 0
Blaxland's Flat Road			1894	121 2 0	121 2 0
Beechwood to Rolland's Plains			1885	1,198 8 5	131 15 8
Barraba to Bundarra			1894	2,498 2 4	295 5 4
Barraba to Long Arm			1895	11 11 0	11 11 0
Barraba, *via* the Gap, to Horton River			1893	223 16 6	218 5 6
Balalla to Bundarra			1890	721 17 2	186 8 6
Black's Corner to Calabash Ridge			1893	95 0 0	60 0 0
Ben Lomond, east side of railway, to Llangothlin			1894	19 0 0	19 0 0
Bellingen to Missabotti			1882	6,851 7 9	655 1 2
Bellingen to Moody's Selection			1894	136 0 9	136 0 9
Bellinger District Roads			1890	764 1 1	299 13 6
Bundarra to George's Creek			1895	10 0 0	10 0 0
Boggabri Railway Gates to Goolendadhi			„	50 0 0	50 0 0
Boat Harbour to Little North Arm			1886	1,054 8 3	9 2 0
Boat Harbour to Cowalong			1887	1,540 19 10	162 15 8
Big Swamp to Coopernook			1893	108 5 0	38 5 0
Big Creek to Dungog to Paterson			1894	50 0 0	50 0 0
Bowraville to Upper South Arm			1890	493 12 3	154 13 6
Bowraville to Upper North Arm			1879	4,598 18 6	508 16 6
Bowraville to Congarini			1882	3,712 9 2	222 5 5
Burril Creek to Kimbriki			1890	798 1 4	227 16 0
Bootawah to Tinonee			1891	353 0 11	33 17 6
Breeza, near Railway Gates and Schofield, to Main Road			1895	10 0 0	10 0 0
Bulladelah down the Myall			1891	289 14 10	40 0 0
Bulladelah to Forster			1878	8,549 5 2	807 16 3
Bulladelah to Larry's Flat			1892	1,901 17 2	636 0 0
Booral to Bulladelah	Maintenance, repair, and construction.	Consolidated Revenue.	1876	9,359 0 8	681 2 4
Booral to Karuah River			1894	36 0 0	36 0 0
Bendolba to Wangat			1876	4,214 8 7	337 6 4
Bullock Wharf to Larry's Flat			1883	3,871 15 9	67 14 0
Bullock Wharf to Coolanglook			1894	153 18 0	153 18 0
Bullock Wharf to Head of Popran Creek			„	27 0 0	27 0 0
Blandford to Iris River			1882	2,393 4 6	241 3 3
Blandford, *via* Box Tree, to Timor			1895	18 18 1	18 18 1
Barrington to Nowendoc			1893	332 1 4	163 1 0
Barrington to Burracabark			1894	125 0 0	125 0 0
Barrington to Cobark Road			1892	719 9 7	270 4 6
Bullock Wharf to Upper Mangrove			1894	20 0 0	20 0 0
Baker's Creek to Armidale			1893	272 0 0	217 10 0
Boolooro Bridge *via* Gil Gil and Seven-mile Hut to Goondiwindi			1894	322 4 7	322 4 7
Bilambil to Tweed River Heads			1888	1,596 6 9	208 1 4
Bumble Hill to Mangrove Creek			1894	20 0 0	20 0 0
Broki to Warkworth			1895	90 0 0	90 0 0
Bellbird Creek to Mountain View			„	30 0 0	30 0 0
Blue Knob, *via* Dundee, to Emmaville			„	64 19 3	64 19 3
Boggabella Main Street			„	80 0 0	80 0 0
Belah to Tamabah			„	22 19 0	22 19 0
Bland Creek Crossing at Williams' Crossing			„	12 0 0	12 0 0
Bowral to the Briars			1892	324 2 4	128 14 4
Bowral to Robertson			1874	16,662 19 0	819 16 8
Bundanoon to Wingello Road			1888	1,094 18 3	92 0 1
Bundanoon Road to Exeter Railway Station			...	.....	.....
Bundanoon Railway Station to Gullies			1894	282 14 4	282 14 4
Bulli, *via* Coal Cliff, to Blue Gum Forest			1882	3,586 10 4	776 18 0
Bulli Pass to Cataract River			1880	1,340 5 11	252 7 5
Blue Gum to Darke's Forest			1895	10 0 0	10 0 0
Berry to Seven-mile Beach			1894	36 0 0	36 0 0
Burrawang to Robertson			1884	1,153 15 7	106 19 7
Berrima to Bowral			1882	2,072 17 9	79 19 9
Berrima, *via* Soapy Flat, to Joadja Creek			1890	684 16 8	161 10 1
Blenkinsopp's to Myra Vale			„	648 1 3	116 13 1
Bungonia to Inverary Park			1885	492 18 6	9 19 1
Binalong to Burrowa			1887	13,513 12 4	597 10 2
Bungendore to Captain's Flat			1889	7,976 4 5	1,406 6 2
Bungendore to Doughboy Hill			1888	4,388 16 8	317 17 4
Bungendore to Black Range			1881	988 4 5	92 2 1
Bungendore to Gundaroo			1893	302 14 9	198 4 7
Bookham to Illalong			1884	698 19 11	72 13 6
Bookham to Chidowla			1885	759 4 9	86 17 6
Bookham to Cooradigbee Junction			1881	1,497 15 9	187 19 6
Burrowa to Young			1876	13,253 6 11	398 11 11

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Burrowa to Breakfast Creek			1892	539 17 3	262 18 0
Burrowa to Narrawa			,,	948 17 9	424 8 4
Burrowa to Kenya			1885	1,936 8 10	246 4 11
Burrowa to Main South Road			1892	681 12 1	233 10 6
Burrowa to Cunningrah			,,	1,030 6 10	467 11 4
Barmedman to Wyalong			1894	465 19 6	465 19 6
Bredbo Station to Nimbo			1890	20,348 11 2	221 10 4
Braidwood to Animbo Road, at 8-mile post, to Tarringdon			1895	10 0 0	10 0 0
Braidwood to Nimbo			1893	844 1 6	494 1 7
Braidwood to Elrington			1872	5,053 19 4	328 13 9
Braidwood-Nerriga Road, at 7-mile post, to Mongarlow			1895	24 19 11	24 19 11
Braidwood to Nerriga			1892	2,030 17 0	746 17 7
Braidwood to Queanbeyan			1890	2,902 2 4	1,200 3 7
Braidwood and Tarago Road, *via* Larbert, to Lower Boro and Tarago			1881	2,043 11 5	303 17 2
Braidwood to Euradux			1895	25 10 1	25 10 1
Braidwood to Sergeant's Point			1881	2,856 4 4	195 17 4
Braidwood, *via* Reidsdale, to Bell's Creek			1872	2,908 17 7	154 12 1
Braidwood, *via* Bell's Creek, to Araluen			1864	19,562 16 6	707 8 5
Braidwood District Roads			1893	100 0 4	50 0 3
Braidwood to Colombo			1895	24 11 6	24 11 6
Braidwood to Nelligen (Clyde Road)			1863	38,235 8 4	1,426 2 4
Bergalia Post Office to Bingie Bingie			1889	249 0 8	31 17 8
Bodalla, *via* Eurobodalla, to Dignam's Creek			1893	531 15 7	379 15 7
Bodalla to Wagonga Heads			,,	451 5 5	349 18 5
Bega to Bembooka			1878	6,105 4 6	250 6 9
Bega, *via* Wapengui and Murrah, to Bermagui			1877	8,005 5 1	284 6 0
Bega to Wolumla			1874	10,829 6 7	153 18 8
Bega, *via* Jellat Jellat, to Tathra			1873	11,522 18 11	496 6 8
Bega District Roads			1891	1,991 4 2	590 13 4
Bega to Brogo (Old Road)			1890	817 17 2	163 8 11
Bombala to Delegate			1871	12,454 14 8	789 13 7
Bombala, *via* Buckalong and Gunningrath, to Bobundarah			1881	1,954 8 9	56 2 0
Bombala, *via* Mahratta and Mila, to Cragie			1892	386 4 2	84 4 10
Bombala to Buckley's Spring			1889	223 14 4	25 0 0
Bombala to Nimitybelle			1892	4,260 15 1	1,638 15 2
Bombala to Burrumbooka			1895	20 7 11	20 7 11
Bombala to Merimbula			1864	91,716 12 1	2,985 11 5
Bobundarah to Adaminaby			1880	3,558 9 9	213 18 0
Bibbenluke to M'Lachlan River			1887	2,213 14 5	232 3 8
Burrogate to Honeysuckle			1882	1,133 13 7	31 17 0
Buckley's Crossing to Jinenbuen			1889	223 8 4	47 5 0
Buckley's Crossing to Maffra			,,	220 11 4	34 9 0
Buckley's Crossing, *via* Bolocco, to Jindabyne	Maintenance, repair, and construction.	Consolidated Revenue.	1883	2,246 16 6	261 15 8
Brown Mountain, *via* Kameruka, to Finger Post			1892	3,171 16 1	952 5 7
Berridale to Buckley's Crossing			1891	148 12 6	16 9 0
Billylingra, *via* the Gap, to Adaminaby			1890	1,668 10 0	441 7 0
Brungle Bridge to Gobarralong Ford			1888	1,341 10 3	125 10 11
Brungle, *via* Wyangle, to Toomoorooma Road			1889	871 2 5	202 14 11
Batlow to Tumberumba Road			1892	79 8 6	39 10 3
Bowe's Lane, Corowa			1893	273 18 0	78 0 0
Berrigan to Murray Hut			1892	271 7 4	105 0 8
Berrigan to Mulwala			1891	320 0 6	96 18 0
Balranald to Windowal			1894	98 10 11	98 10 11
Balranald to Hay			1887	9,985 3 8	771 9 7
Balranald to Swan Hill Ferry			1887	1,996 16 1	311 15 5
Balranald to Euston			1894	40 0 0	40 0 0
Balranald to Wentworth			1886	3,536 18 2	279 11 9
Booligal to Hillston			1880	3,600 5 8	210 1 8
Booligal to Ivanhoe			1892	1,218 4 8	469 16 4
Bogalong to Marsden			1883	6,126 5 11	215 17 8
Berry to Barrengarry			1893	1,314 0 1	802 9 11
Bromans to Nelligen			,,	609 8 6	303 11 8
Balallaba to Jerrabat Gully, through Oranier			,,	40 0 6	30 0 0
Bolocco to Popong			1895	24 15 0	24 15 0
Bredalbane to Gurrunda			,,	2 0 0	2 0 0
Bringelly, *via* Greendale, to Blaxland's Crossing			1894	47 0 3	47 0 3
Bolaro to Paradise			1895	42 0 0	42 0 0
Bermagui to Quaama			1890	641 2 10	115 14 10
Burraga to Urana			1894	246 15 6	246 15 6
Burra Road, near Michelago, to Tinderyvale			,,	30 0 0	30 0 0
Baulkham Hills to Dural			,,	558 16 11	558 16 11
Baulkham Hills School to Toongabbee			1895	10 0 0	10 0 0
Blacktown to Seven Hills Station			1884	916 17 3	383 3 10
Blacktown, *via* Riverstone, to Box Hill			1873	3,814 18 1	207 9 10
Bell's Line to Putty			1871	12,630 5 2	991 14 10
Bell's Line of Road at Enfield to Reiby's Grant			1893	124 13 6	106 9 6
Belmont, *via* Box Hill, to Bell's Line			1894	215 13 4	215 13 4
Blaxland's Ridge, *via* Moran's Rock, to Upper Colo			1888	857 15 0	132 12 10
Bridle Track, Katoomba to Caves			1893	82 1 6	63 17 6
Bowenfels to Lidsdale			1890	924 13 1	313 11 1
Bowenfels to Stoney Point			1895	17 17 0	17 17 0
Bowenfels to Hartley Road Junction			1890	1,017 0 6	211 12 11
Blackheath to Govett's Leap			1889	262 0 3	55 0 0
Blackheath to Hat Hill			1895	4 3 6	4 3 6
Bathurst and Caloola to Trunkey			1866	28,795 10 11	4 10 10
Bathurst District Roads			1894	265 16 0	265 16 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount Expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Bathurst, *via* Gorman's Hill, to Campbell's River			1879	5,770 19 8	419 16 5
Bathurst to Campbell's River, Perth			1878	1,827 7 3	100 11 6
Bathurst to Monkey Hill			1877	11,592 0 5	321 12 4
Bathurst and Caloola to Rockley			1873	15,223 19 0	389 17 2
Bathurst to Swallow Creek			1893	317 7 6	301 4 1
Bathurst, *via* Swallow Creek, to Ophir			1864	12,989 12 9	174 6 9
Bathurst to Sofala			1871	29,270 12 5	463 17 4
Bathurst, *via* Blayney, Cowra, and Grenfell Road, to Village of Euroka			1895	73 2 0	73 2 0
Bathurst, *via* Blayney and Cowra, to Grenfell			1870	113,359 15 7	4,215 8 2
Bathurst, *via* George's Plains, to Burraga			1895	540 3 0	540 3 0
Bathurst to Belleview			,,	41 5 0	41 5 0
Blayney to Moorilda			1880	2,915 11 4	107 14 0
Blayney, *via* Grahamstown, to Millthorpe			1883	2,783 11 7	60 18 9
Blayney to Neville			1877	10,569 4 3	415 13 5
Blayney to Forest Reef			1880	4,286 8 11	227 12 4
Blayney and Guyong Road, to Pendray's, to Vittoria			1893	120 17 3	31 8 11
Blayney to Guyong			1881	2,595 11 10	171 8 0
Blayney to Barry			1883	1,510 8 11	297 12 9
Blayney to Rockley			1895	101 4 4	101 4 4
Bull Ridge to Isabella River			,,	40 8 0	40 8 0
Brendah towards Marengo			1890	752 18 11	223 4 9
Boree to Parkes			1870	42,464 13 2	516 14 2
Bobborah Lands Road, Dubbo to Gilgandra			1895	709 0 0	709 0 0
Biree, Brewarrina Bridge, to Lednappa			,,	22 0 0	22 0 0
Brewarrina to Lednappa			1891	311 13 0	67 15 0
Byrock to Gongolgan			1894	6 17 0	6 17 0
Bourke to Barringun			1888	3,346 19 4	516 16 11
Bourke to Hungerford			1885	6,601 19 10	850 5 7
Bourke to Wanaaring and Milparinka			,,	5,631 16 1	844 7 7
Bourke to Cobar			,,	3,177 1 7	311 10 5
Broken Hill to Menindie			1892	669 9 7	269 17 8
Broken Hill to Cobham			1887	2,482 15 6	317 18 7
Brolgan Tank to Condobolin			1894	221 12 7	221 12 7
Bridgewater to Ulundry			1895	27 17 0	27 17 0
Balladooran Lane			,,	746 8 4	746 8 4
Brockelhurst to Terramungamine			,,	106 17 0	106 17 0
Bannaby Hill to Newfoundland			,,	49 14 3	49 14 3
Bundella-street, Bundooran			,,	22 2 0	22 2 0
Balgowlah, *via* French's Forest, to Gordon			1890	529 12 9	102 16 3
Balmain, over Iron Cove and Parramatta River Bridges, to Ryde			1893	1,792 7 0	1,109 11 0
Bankstown to Rookwood Station	Maintenance, repair, and construction.	Consolidated Revenue.	1886	2,626 19 8	166 8 3
Beecroft Road to Carlingford Road			1891	399 16 0	133 10 0
Beecroft Railway Station Approach			1895	44 16 6	44 16 6
Bettington's Lane, Dundas			1891	126 10 0	32 0 0
Botany Road, Sydney, to Banks' Meadow			1890	8,557 19 2	1,593 10 8
Broken Back Bridge, at Pearce's, towards Baulkham Hills			1895	15 0 0	15 0 0
Broken Back Bridge to Pennant Hills			1891	790 7 0	260 5 7
Berowra Station to Berowra Creek Road			1893	161 3 7	149 3 7
Berowra to Cowan Creek			1894	81 7 6	81 7 6
Bunnerong Road			1891	1,204 2 3	452 2 4
Buggy Hill Road, 15th Avenue, Horton Park			1895	69 16 6	69 16 6
Boundary Road, from Blaxhall-street, Granville, to Woodville Road, at Guildford			,,	60 0 0	60 0 0
Barley Field Lagoon to Sydney Flat			,,	45 9 10	45 9 10
Bombay Crossing to Gifford's Road			,,	49 0 0	49 0 0
Bond's Road, George's River			,,	110 0 0	110 0 0
Bushrangers' Creek Road			,,	86 17 0	86 17 0
Bay-street, Lyons Road			,,	32 10 0	32 10 0
Barber's Creek to Carura			,,	100 0 0	100 0 0
Clarence River, at Road Gears to Southgate Road			1894	52 7 4	52 7 4
Clarence River Bank Protection			,,	24 0 6	24 0 6
Crabb's Creek, Road up			1895	14 10 0	14 10 0
Crabb's to Lloyd's			1894	86 4 9	86 4 9
Cowlong Road to Pearce's Creek, through Laris' property			,,	124 15 9	124 15 9
Cowlong-Marome Creek Road to Wilson's, Toohey's Mill Road			,,	41 11 6	41 11 6
Cowlong to Marome Creek			1890	1,197 14 7	269 3 10
Clunes to Stagg's			1887	1,134 6 3	167 0 0
Clunes to McKenzie's			1890	739 10 4	180 4 0
Clunes to Cooper's Shoot			1887	6,265 16 10	960 10 7
Casino to Mount Lindsay			1876	14,046 13 0	1,131 6 4
Casino to Tabulam			1884	15,670 18 5	294 3 9
Casino to Reynolds'			1894	15 19 6	15 19 6
Casino to Coraki			1886	4.728 10 11	765 14 9
Casino to Gundarimba			1884	2,098 9 7	71 19 3
Casino to Ellangowan			1890	1,519 14 2	278 12 8
Casino District Roads			1893	1,090 12 3	115 18 6
Casino-Coraki Road to South Codrington Post Office			1894	71 16 8	71 16 8
Casino to North Codrington			1892	1,410 2 2	551 6 4
Casino to Myall Creek			1873	25,655 4 0	845 8 3
Coraki to Broadwater			1889	993 3 2	209 1 8
Coraki to Wyrallah			1888	1,787 17 1	521 15 1
Coraki to Tuckarimba			1892	301 2 10	131 15 4
Coraki to Myall Creek			,,	832 18 11	379 18 2
Coraki to Swan Bay			1893	232 18 1	205 18 9
Chatsworth Road to the Serpentine			1895	11 16 6	11 16 6

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Chatsworth to Half-way House			1890	3,593 9 8	1,332 15 10
Calabash Ridge to Calabash Bay			1894	40 0 0	40 0 0
Calabash Ridge Road, &c., towards Hutchinson's			,,	15 0 0	15 0 0
Calabash Ridge Road towards Chillcott's			,,	30 0 0	30 0 0
Copmanhurst to Coaldale			1890	1,074 10 5	194 15 10
Cardiff Road			1893	49 9 7	0 4 1
Carramana to Seeland's			1890	128 4 5	8 8 0
Carramana to Eatonsville			,,	239 3 6	15 5 0
Coff's Harbour to Sharpe's			,,	7,276 16 9	870 17 1
Coolatai to Wallangra			1884	605 16 7	36 17 7
Cobbedah to Rocky Creek			1874	9,998 0 7	239 15 4
Cregan's, *via* Rosehill, to Rocky River			1886	641 4 2	106 11 9
Collarendabri to Narrabri			1893	257 8 8	232 11 8
Collarendabri to Angledool			1892	433 8 8	108 13 8
Cooney Creek to Sunlight			1889	1,196 11 11	140 0 0
Coonamble to Tundaburne Creek			1895	54 19 8	54 19 8
Coonamble to Combogolong			1892	548 16 0	61 3 4
Coonamble towards Nedgerra Creek			1894	70 8 2	70 8 2
Coonamble to Gilgandra			1891	1,565 14 2	943 3 5
Coonamble towards Baradine			1894	156 13 3	156 13 3
Coonamble to Mundooran			1891	624 5 4	149 17 6
Coonamble to Warren			1892	659 15 6	187 0 1
Coonamble towards Billaroy			1895	27 14 2	27 14 2
Congarini, up Taylor's Arm			1885	2,951 5 4	727 9 0
Congarini to Port Macquarie (Coast Road)			1894	2,629 2 11	2,629 2 11
Coast Road to Rolland's Plains			,,	85 19 6	85 19 6
Coast Road to Campbell's			1889	1,309 8 5	103 4 8
Coast Road to Perrett's			1894	1,357 11 2	1,357 11 2
Coopernook, *via* Cattai Creek, to Harrington			1884	1,567 2 2	115 9 3
Cedar Party Road to Main Road, Taree to Wingham			1891	697 10 8	148 11 8
Cedar Party to Nambucca Heads			1893	141 13 5	61 13 5
Cedar Party Road to Dimond's			1891	144 4 6	19 11 9
Cedar Party Creek up Killabakh Creek			1890	542 19 6	100 0 6
Cundle, *via* Lansdowne, to Jones' Island			1876	4,074 11 1	337 2 2
Cameron's Crossing to Morill Creek			1891	123 11 1	39 19 5
Cessnock, *via* Mount View, to Millfield			,,	1,316 19 1	340 12 2
Cessnock to South Boundary of Josephson's			1884	2,132 15 5	135 18 9
Cooranbong and Mount Vincent Road to Awaba Railway Station			1891	619 16 2	263 2 6
Cooranbong to Dora Creek Platform			1887	654 9 2	169 19 5
Cooranbong to Freeman's Water-holes			1892	756 9 11	309 13 3
Cooranbong and Humphries' C.P. to top of Watagan Mountain			1893	137 17 11	71 5 6
Cooranbong and Humphries' C.P., Road to Pringle's	Maintenance, repair, and construction.	Consolidated Revenue.	1894	65 8 0	65 8 0
Charlestown to Redhead			1889	1,877 13 8	277 5 5
Charlestown to Lake Macquarie			1894	36 0 0	36 0 0
Clarencetown to Dungog			1877	20,031 6 7	880 15 0
Clarencetown to Limeburners' Creek			1884	3,209 6 1	461 5 4
Clarencetown to Seaham Post Office			1895	49 12 6	49 12 6
Coonabarabran to Bomera			1891	2,000 1 10	629 10 2
Coonabarabran to Wingidgeon			1895	231 0 0	231 0 0
Coonabarabran to Goorianawa			1882	5,749 19 4	354 19 4
Coonabarabran to Timor Rock			1895	4 5 0	4 5 0
Coonabarabran to Mundooran			1891	4,138 16 4	1,462 19 8
Coonabarabran to Malally			1887	4,264 11 9	1,027 4 2
Coonabarabran to Black Stump			1892	1,782 0 10	691 11 0
Currabubula to Pillaway			1891	389 7 5	83 8 6
Chandler Bridge towards Kempsey			1893	608 12 5	322 1 1
Commandant Hill to Port Macquarie			1894	39 8 3	39 8 3
Camboon to Piangle			,,	192 11 8	192 11 8
Cucumbark School to Champion Creek Cemetery			,,	39 19 0	39 19 0
Chatham to Taree and Wingham Road			1891	120 19 2	2 9 0
Croki to Main Road			1894	14 15 0	14 15 0
Curlewis Railway Gate Approach			1895	8 17 6	8 17 6
Cochran's to Duncan's			1892	71 4 8	16 6 8
Carrington Main Road			1894	150 0 0	150 0 0
Cheer's Hill to Algomera Junction			1890	1,295 8 7	289 6 3
Carne's Hill to Bringelly			1892	331 7 8	156 9 2
Carne's Hill to Orphan School Road			1893	181 0 0	149 16 4
Carne's Hill to Blaxland's Crossing			1895	53 0 0	53 0 0
Campbelltown to Narellan			1889	617 2 10	31 6 3
Campbelltown to Wedderburn			1895	172 17 2	172 17 2
Campbelltown District Roads			,,	293 0 6	293 0 6
Camden Municipality to Werombi			1893	294 1 1	183 13 10
Camden, *via* Glendural, towards Mulgoa			1892	54 11 3	14 12 3
Camden to The Oaks			1890	1,524 5 7	441 6 11
Clifton to Railway Station			1894	37 8 0	37 8 0
Collector to Gundaroo			1890	537 8 3	70 4 0
Collector to Gunning			1878	3,715 12 3	147 12 7
Collector, *via* Currawang, to Tiranna			1882	4,891 17 1	289 0 2
Collector to Bredalbane			1881	2,499 17 7	312 19 5
Cotta Walla to Roslyn			1892	313 9 3	141 15 0
Cotta Walla to Crookwell			1895	74 19 11	74 19 11
Cameron's and Pearson's land at Redbank (road through)			,,	20 19 6	20 19 6
Crookwell to Mount Wayo			1892	2,402 16 2	932 9 1
Crookwell to Laggan and Binda			1883	944 13 0	106 18 11
Crookwell, *via* Grabben Gullen, to Gunning			1882	3,472 1 2	471 4 11
Crookwell, *via* Gullen and Laggan, to Taralga			1874	10,046 14 11	1,046 0 2

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Crookwell, *via* Binda and Bigga, to the Abercrombie	Maintenance, repair, and construction.	Consolidated Revenue.	1892	1,452 5 5	466 2 0
Crowley's Lane			1895	46 0 0	46 0 0
Captain's Flat to Norongo			1892	569 6 3	302 16 6
Captain's Flat to Cooma Road, at 12-mile post			1893	362 10 3	257 9 3
Cowra Road, near Rosebrook, towards Bredbo			1891	69 13 7	16 9 0
Cathcart Junction, *via* Wyndham, to Panbula			1875	27,248 13 9	679 17 11
Cathcart to Bibbenluke Junction			1888	1,324 14 5	34 10 0
Cragie to Delegate			1890	263 18 3	60 0 0
Cragie, *via* Quinburra, to Victoria Border			1893	82 1 8	69 17 8
Cobargo to Wadbilliga			1888	2,945 8 7	78 6 8
Cobargo to Bermagui			1883	4,111 2 6	411 16 10
Candelo to Wyndham			1882	4,026 19 4	217 2 4
Candelo to Colombo			1893	411 0 10	284 3 4
Candelo to Kameruka			1877	744 10 11	26 2 3
Campbell's Lane to Rhyanna			1895	23 2 0	23 2 0
Cooma to Green Hills			1887	865 6 2	97 7 9
Cooma and Kiandra Road, near 21-mile post, to Eucumbene			1894	16 15 1	16 15 1
Cooma to Bobundarrah			1880	4,168 5 1	362 11 5
Cooma to Jindabyne			1881	8,492 17 10	1,234 18 3
Cooma, *via* Rosebrook, to Cowra			1889	611 0 8	211 16 4
Cooma, *via* Tracey's, to Kydra			,,	421 1 4	79 15 0
Cooma, *via* Mittagang, to Murrumbucca			,,	270 4 6	64 15 0
Cooma and Jindabyne Road to Buckley's Crossing			1878	4,375 13 0	169 0 9
Cooma, *via* Myalla, to Bobundarrah and Nimitybelle			1884	1,392 10 10	162 8 8
Cooma and Nimitybelle to top of Brown Mountain			1894	967 11 9	967 11 9
Cooma to Nimitybelle			1892	3,020 18 7	1,289 1 5
Cooma, *via* Jindabyne, to Kiandra			1879	16,893 16 6	1,361 12 2
Cooma, *via* the Peak, to Bolaro			1887	2,116 11 10	411 15 2
Cooma to Count-a-guinea, *via* Big Badger			1879	3,743 10 11	333 0 6
Cootamundra to Stockinbingal Bridge			1885	1,642 12 5	240 0 5
Cootamundra to West Jindalee			1895	60 15 0	60 15 0
Cootamundra to Junee			1892	583 17 11	324 8 10
Cootamundra to Bowning			,,	1,082 6 9	571 13 1
Cootamundra to Temora			1882	15,918 10 8	469 17 1
Cootamundra, *via* Kilrush, to Wallendbeen			1892	404 7 9	188 3 4
Cootamundra, *via* Ironbong, to Bethungra			1891	765 4 11	251 5 2
Cootamundra-Junee Road, near Bethungra, to the Track			1895	10 0 0	10 0 0
Cootamundra to Coolac			1875	6,576 13 0	277 7 1
Cootamundra to Berthong			1891	332 12 3	97 11 6
Coolac to Gobarralong			1887	1,095 9 3	56 5 11
Coolamon to Devlin's Siding Road			1894	48 0 0	48 0 0
Coolamon to Currawurra			,,	21 0 0	21 0 0
Coolamon to Cowabee			1892	929 15 6	418 19 8
Coolamon, *via* Berry Jerry, to Ariah			1894	87 17 6	87 17 6
Cranebob Creek to Upper Tarcutta			1890	502 10 1	93 9 9
Crossing, Bland Creek, at Williams'			1895	9 7 7	9 7 7
Carabost to Kyamba			1880	4,511 15 6	125 0 2
Crossing and Approach, Murrumbateman Creek Road, Yass, to near Gundaroo			1895	13 16 0	13 16 0
Cullingar Road to Mulvey's Hall			,,	16 1 6	16 1 6
Conargo to Old Goree Bridge			1892	310 1 11	194 9 8
Culcairn to Germanton			1882	11,747 2 4	504 7 8
Corowa to Piney Range			1885	4,051 18 10	537 5 0
Corowa to Coreen and Jerilderie Road at Momalong			1892	1,719 10 4	705 18 9
Corowa Railway Station Approach			,,	333 12 10	4 0 0
Coreen to Jerilderie			1891	1,961 11 10	556 9 0
Causeway, Billabong Creek, Mitta Mitta, to Illaboo			1895	46 18 8	46 18 8
Causeway, Gundary Creek			,,	28 16 0	28 16 0
Causeway, Carey's Water Ponds			,,	60 0 0	60 0 0
Causeway, Middle Falbrook			,,	91 7 0	91 7 0
Causeway, Eugowra to Goolagong			,,	47 9 0	47 9 0
Coonong, towards Urana			1885	4,541 11 6	483 11 2
Carrathool to Hillston			1881	7,135 1 10	820 15 4
Carragabal, *via* Bimbi, &c., to Burrengong			1892	1,163 7 1	666 5 4
Carragabal, *via* Bimbi and Thuddungra, to Clifton			1895	58 9 4	58 9 4
Cawdor to Westbrook			1894	22 19 0	22 19 0
Cobbitty to Mattavai, Westwood, and Vermont			,,	120 14 11	120 14 11
Charleyong to Mayfield Junction			,,	47 8 1	47 8 1
Cadgangarry Crossing, Quamma to Verona			1895	56 2 0	56 2 0
Canberra Road, near Church			,,	26 0 0	26 0 0
Castle Hill and Dural Road, at Mears', to Old Castle Hill Road			,,	10 0 0	10 0 0
Castle Hill to Old Parramatta Road			,,	10 0 0	10 0 0
Clarendon to Cornwallis			1884	688 11 0	28 9 8
Churchill's Wharf to West Portland			,,	1,228 13 6	58 13 0
Churchill's Wharf, *via* Sackville Post Office, to Page's Ferry			1895	31 5 0	31 5 0
Caloola to Trunkey			1894	91 3 0	91 3 0
Caloola Road, *via* Cow Flat, to Rockley			1878	5,545 16 10	98 9 0
Caloola Road to Newbridge			,,	2,136 6 4	136 10 8
Cobborah to Gilgandra			1893	1,227 12 1	646 7 2
Cobborah to Denison Town			1895	29 0 0	29 0 0
Carcoar to Forest Reefs			1893	161 3 8	46 14 4
Carcoar to Millthorpe and Cadia Road			1895	52 6 6	52 6 6
Carcoar to Flyer's Creek			1879	1,709 12 9	130 10 6
Carcoar to Hobby's Yards			1894	106 12 5	106 12 5
Carcoar and Trunkey Road to Carcoar and Moorilda Road			1895	649 14 3	649 14 3
Carcoar to Shaw			,,	50 0 0	50 0 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Cheshire Creek to Upper Turon			1891	487 19 8	111 18 11
Cudgegong to Wollar			,,	1,041 19 10	35 5 8
Cudgegong to Reedy Creek			1873	17,951 18 4	912 0 2
Cudgegong to Hill End			,,	26,740 9 6	630 17 11
Cudgegong to Rylstone			1883	3,859 7 5	417 12 2
Cudgegong Village to Rylstone			1885	2,921 11 1	260 14 11
Cudgegong to Home Rule			1881	1,480 5 5	166 18 2
Cowra District Roads			1895	113 19 0	113 19 0
Cowra, *via* Bennett's Springs towards Burrowa			1886	1,962 12 0	314 5 3
Cowra to North Logan			1890	226 14 6	106 14 6
Cowra to Koorawatha			1875	6,772 8 1	112 5 0
Cowra to Hovell's Creek, *via* Darby's Falls			1883	2,442 13 1	278 16 6
Cowra, *via* Binni Creek, to Walli			1886	2,053 7 6	175 4 3
Cowra, *via* Goolagong, to Forbes			1878	4,179 11 8	1,469 10 8
Cowra to Canowindra			1880	3,595 6 9	763 6 10
Cowra to Breakfast Creek			1888	2,238 7 7	351 3 9
Cargo to Canowindra			1882	2,879 5 0	266 11 10
Cargo to Cudal			1883	2,791 2 3	247 17 7
Cargo and Orange Road to Kite's Swamp			1889	982 6 5	284 2 9
Canowindra to Eugowra			1876	6,027 17 5	181 19 11
Canowindra to Goolagong			1890	551 7 11	175 0 11
Cuttaburra Creek Crossing Bourke to Hungerford			1894	39 19 4	39 19 4
Cumnock to Balderogery			1888	1,090 10 2	178 8 0
Cullenbone, *via* Gulgong to Denison Town			1893	2,695 1 9	1,742 9 0
Cullenbone to Cobborah			1890	6,843 9 4	1,823 16 0
Cobar to Sandy Creek			1893	197 7 8	108 6 0
Cobar to Wilcannia			1895	84 8 9	84 8 9
Cobar to Nyngan			1887	1,923 1 0	105 3 4
Cobar towards Hillston			1889	1,755 8 11	386 6 3
Cobar to Louth			1893	76 7 6	56 11 10
Cobar to Tallywalka			1892	5,211 14 10	801 0 0
Curra Creek to Balderogery			1880	9,492 4 8	360 9 11
Curra Creek to Arthurville			,,	2,802 9 1	170 11 5
Copeland South to Cobar			1895	50 0 0	50 0 0
Cudal to Berrigan Hall			,,	22 0 0	22 0 0
Creams Creek Crossing to Kydra Road			,,	9 2 0	9 2 0
Clearing Rock Holes, Byrock			1893	140 4 11	73 11 9
Carlingford Post Office and Rogan's Hill Road to Crown Lands at Castle Hill			1895	10 0 0	10 0 0
Carlingford Post Office to Rogan's Hill			1892	1,355 10 1	783 12 7
Carlingford Railway Station—Approach			1893	94 9 0	50 0 0
Centennial Park—Road			1887	64,124 12 9	254 1 3
Cowan Creek Road	Maintenance, repair, and construction.	Consolidated Revenue.	1894	53 0 0	53 0 0
Callan Park Road			1895	653 16 4	653 16 4
Carnarvon-street, Newington			1894	12 16 8	12 16 8
Crossings, Gordonsville			,,	4 5 0	4 5 0
Crossing between Griffin's and Rigney's			,,	40 0 0	40 0 0
Copeland-street, Beecroft, to Carlingford Platform			1895	39 17 10	39 17 10
Copeland-street, Beecroft			,,	199 2 6	199 2 6
Denman and Muswellbrook Road to Denman and Jerry's Plains Road, Saddler's Creek Road			1894	147 6 6	147 6 6
Dufficey's to Emigrant Creek			1895	33 6 3	33 6 3
Dungowan, *via* Port Stevens Spur Road to Swamp Oak			1893	698 1 3	374 13 7
Dungowan Creek, south bank of river, to Cadell's Station			1892	896 2 3	29 18 8
Dungowan Post Office to Mulla Creek			1894	39 16 0	39 16 0
Dora Creek to Morrissett			,,	55 7 0	55 7 0
Dunbible Creek, from Wharf to Garvan's			1895	26 18 6	26 18 6
Dutton's to Marome Creek			1890	874 18 10	130 10 6
Derumbah to Cudgen Road			1892	480 12 1	189 19 5
Davistown to Gosford and Kincumber Road			1894	8 0 0	8 0 0
Deep Gully Road, Grafton			,,	75 4 0	75 4 0
Dalmorton to Chandler's River			1892	460 5 3	154 19 3
Deviation of road, Broadwater to Wardell			1894	70 0 0	70 0 0
Deepwater to Emmaville			1891	7,360 11 9	678 11 11
Deepwater to Torrington			1888	2,563 12 2	577 8 10
Darkwater Bridge up left bank Belmore River			,,	1,213 6 9	149 6 2
Darkwater Bridge up right bank Belmore River and Branch Road			1892	445 13 9	259 9 1
Dungog to Stroud			1876	5,521 10 11	508 5 7
Dungog to Weismantles			1883	16,952 8 0	743 0 0
Dungog to Fosterton			1877	2,395 0 11	126 14 0
Dungog up Karuah River			1890	539 16 6	99 1 8
Dungog to Underbank			1892	6,169 10 1	578 3 6
Dungog Municipal Roads			1894	80 0 0	80 0 0
Dunmore to Clarencetown			1887	7,907 8 0	593 13 8
Dunmore and Clarencetown Road to Seaham Punt			1894	40 4 5	40 4 5
Dunmore to Paterson Bridge			1880	2,981 18 6	384 0 11
Dunmore to Paterson Bridge encroachment, near Woodville			1895	69 13 9	69 13 9
Dumaresq Island Roads			1891	333 11 6	51 13 6
Duri, *via* Colly Blue to Bomera			1894	795 3 1	795 3 1
Deep Creek to Busby's Flat			1890	1,027 1 7	150 4 3
Duncan's to Napier's			1883	1,436 12 7	69 8 6
Dunnolly Ford, Singleton			1895	5 4 0	5 4 0
Duncan's to Alstonville			1894	45 2 9	45 2 9
Darkes Forest to Heathcote Road			1892	304 1 11	154 2 7
Dalton to Narrawa			1882	4,014 13 4	343 17 6
Dalton to Wheeo			1894	15 0 0	15 0 0
Delegate to the Border, near Bendock			1887	576 3 9	72 7 8

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Delegate, near Currawang, to Wollondilly	Maintenance, repair, and construction.	Consolidated Revenue.	1891	708 15 10	219 1 1
Deniliquin to Urana			1874	20,424 4 7	611 12 1
Deniliquin to Colimo			1895	25 0 0	25 0 0
Deniliquin to Wakool Bridge			1892	1,019 17 2	119 17 2
Deniliquin to Wanganella			,,	886 10 1	452 13 11
Deniliquin to Moama			1891	774 2 8	211 7 8
Deniliquin to Moulamein			1892	976 18 8	267 0 0
Deniliquin, *via* Aratula to Tocumwal			1893	609 6 9	342 3 3
Deniliquin Road through Corowa			1894	461 5 5	461 5 5
Devil's Den, *via* Gunbar to Whealbar			1882	2,987 7 8	248 8 0
Douglas Park Station to Picton Road			1894	70 0 0	70 0 0
Diamond Swamp to Tarana			,,	46 15 8	46 15 8
Dempster's Lane, Narromine to Bogan			,,	32 0 0	32 0 0
Dam across Cowal, near Narromine, Woolshed Road, Narromine to Bogan River			,,	260 8 0	260 8 0
Dandalong to Tabralong			,,	250 0 0	250 0 0
Duggan's to the Caves			1888	3,040 3 1	178 15 6
Dural to Pitt Town and Wiseman's Ferry			1893	303 6 4	191 15 0
Dural to Galston			1894	15 0 0	15 0 0
Dubbo to Obley			1878	6,247 3 9	187 14 9
Dubbo, *via* Tomingley, to Peak Hill			1890	8,378 7 11	1,554 7 10
Dubbo to Coonamble			1874	31,024 18 7	2,577 6 2
Duramana, *via* Peel to Lime Kilns Road			1895	15 15 0	15 15 0
Dural, Wiseman's Ferry Road, through Best's, &c., Roughley's, towards Sandhurst			,,	20 0 0	20 0 0
Drainage, Woolfrey's Land, Brewarrina to Barwon Bridge			,,	9 18 0	9 18 0
Dubbo to Cobborah			1890	2,819 4 0	559 9 0
Dubbo to Gilgandra			1891	4,869 10 7	721 6 11
Dairy Creek to Galley Swamp			1895	8 15 0	8 15 0
Drainage, Pitt Town Streets			,,	7 10 0	7 10 0
Dudley Relief Works			,,	51 7 0	51 7 0
Defence Road to Pittwater Road			1888	2,144 2 7	421 12 8
Dog Trap Road to Pheasant's Nest			1895	50 0 0	50 0 0
Eureka to Rosebank			1888	685 13 6	114 6 11
Eureka to Gay's			1891	150 7 11	59 7 10
Everett-street, Guyra			1893	99 0 5	37 0 5
Emmaville to Webb's			1885	1,224 13 7	93 14 4
Emmaville to Strathbogie			,,	1,919 12 4	287 16 1
East Kempsey to Spencer's Creek and Branch Road			1877	5,606 0 1	1,040 0 3
East Kempsey to Swamp at J. Verge's 640 acres			1892	113 12 11	39 19 5
East Kempsey, *via* Dungay Bridge, to Sherwood			1880	2,925 9 1	216 4 2
East Kempsey to Coast at Crescent Heads			1889	1,181 10 3	119 15 3
Emmaville to Wellingrove			1895	76 0 11	76 0 11
Erina, *via* Kincumber, to Terrigal			1893	859 5 0	767 0 8
East Gosford to Nursery			,,	288 8 8	89 2 5
East Maitland to Freeman's Waterholes			1891	4 410 16 9	1,591 18 5
East Maitland and Paterson Road to West Maitland, and Paterson Road at Largs			1895	114 4 10	114 4 10
Erosion Worlands Creek, Blandford			,,	240 9 8	240 9 8
East Frederickton Drain Repairs			,,	10 17 0	10 17 0
Ennis Road, Glen Esk, Upper Plains			,,	50 0 0	50 0 0
Elrington to Araluen			1870	3,038 15 6	136 16 2
Eurobodalla to Nerrigundah			1889	1,116 2 6	90 17 0
Eden to Sturt			1879	7,111 3 6	447 6 8
Eden to Pambula			1881	7,312 9 6	311 18 1
Eden and Pambula Road to Back Creek			1891	618 11 7	121 14 8
Eden and Kiah Road to Timbilico			1895	202 10 5	202 10 5
East Kangaloon to Waratah Factory			1893	157 12 0	110 7 0
Ellondon-street Drain, Bungendore			1895	26 10 0	26 10 0
Euston to Prungle			,,	167 10 11	167 10 11
Embankment and Branch, Yango Creek, at Morundah			,,	226 15 0	226 15 0
Evan's Plains to Trunkey Road			1883	1,307 10 4	154 12 5
E. M'Guire's to Pitt Town Bottoms			1893	149 4 11	125 8 8
Emu Cemetery and Church—Road to			1895	24 18 0	24 18 0
Emerald-street, Village of Emu			,,	3 0 0	3 0 0
E. M'Guire's and Clarke's to Fisher's			,,	80 0 0	80 0 0
Eastern Road, Gordon			1889	1,040 5 9	39 19 0
Fox's to M'Cormack's			1892	653 19 10	263 17 6
Fidden's Wharf Road			1893	47 11 0	26 10 6
Flagstone Creek to Acacia Creek			1895	19 18 4	19 18 4
Fernmount to Moonee			1892	1,558 15 2	10 17 0
Fernmount to Nambucca			1890	3,329 6 5	18 4 0
Fernmount to Raleigh Mill			1894	54 8 8	54 8 8
Flanagan's Swamp to Upper St. Leonards and Orundumby			1891	310 12 6	23 17 2
Fullerton Road, near Seamen's			1895	49 17 6	49 17 6
Flyer's Creek to Dorney			1884	2,592 0 8	390 15 11
Felltimber Creek Road			1895	252 1 7	252 1 7
Fairfield Road, widening			,,	157 5 0	157 5 0
Foot of Burragorang Mountain to Cox's River			1881	1,430 16 9	127 3 6
Foot of Burragorang Mountain up the Wollondilly River			1882	1,398 6 3	135 6 2
Fitzroy Falls, *via* Belmore Falls, to Rossgall Road			1890	2,742 16 7	307 2 6
Foxlow, *via* Carwoola, to Seven-mile post			,,	1,181 14 5	670 8 5
Fountaindale to Barrangarry, to King's and other farms			1895	10 0 0	10 0 0
Foot of Bumble Hill to Olney Reserve			,,	20 0 0	20 0 0
Four-mile Tree to Campbell's River			1890	641 12 8	113 7 5
Fleming's Hill to Grono's Farm			1893	75 12 0	6 2 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated	Whether Constructing or under Repair.	Fund from which the Expense is defrayed	When Commenced	If Unfinished, amount of Expenditure to 30 June, 1895. £ s. d.	Amount expended from 1 January, 1894, to 30 June, 1895. £ s. d.
ROADS AND BRIDGES—*continued.*					
Forbes and Cargo Road, Lane between			1895	51 5 0	51 5 0
Forbes to Gunningbland Junction			1883	4,250 12 0	634 0 4
Forbes to South Condobolin			1882	10,862 9 2	1,582 16 0
Forbes to Condobolin			1879	11 472 6 5	649 4 6
Forbes to Boyd			1895	10 0 0	10 0 0
Forbes, *via* Parkes and Alectown, to Peak Hill			1878	8,898 14 3	1,032 7 3
Favell's to Byng			1884	1,386 0 0	176 18 6
Field of Mars Road			1895	249 17 10	249 17 10
Fox Valley to Thornleigh Station			1891	583 15 8	39 6 6
French's Forest to Pittwater Road, at Greendale and D.Y.			1890	973 18 11	129 15 3
Frenchman's Lane Deviation			1895	16 3 8	16 3 8
Granuaile to Hutchinson's			1889	2,221 15 4	198 3 9
Gundarimba to Marshall's			1892	274 12 9	123 10 10
Goonellabah, *via* Rous, to Wardell			1890	2,485 18 8	313 13 9
Grafton, *via* Glen Innes, to Inverell			1866	274,370 18 4	7,563 15 2
Grafton to Lower Southgate			1894	895 1 1	895 1 1
Grafton District Roads			1889	2,013 5 5	75 19 2
Grafton Butter Factory, Junction Main Road			1895	1 2 0	1 2 0
Grafton to Flying Horse			1890	3,845 18 9	1,076 14 2
Grafton and Armidale Road, at Tyringham Post Office, to Cockatoo Creek			1895	160 2 0	160 2 0
Grebert's to Solferino			1886	5,511 17 10	615 16 11
Gum Flat to Rob Roy			1895	24 19 0	24 19 0
Glynn's to Nymboida			1890	348 19 9	47 11 0
Glen Innes to Bear Hill and Red Range			1895	41 18 10	41 18 10
Glen Innes, *via* Wellingrove, to King's Plains			1875	8,764 11 11	527 14 3
Glen Innes to Kookabookra and Bear Hill			1889	2,871 18 7	315 11 7
Glen Innes to Red Range and North Kingsgate			1882	4,891 5 0	433 6 11
Glen Innes to Shannon Vale			1891	382 15 4	142 15 0
Glen Innes to Mount Mitchell			1888	937 14 5	141 8 8
Glen Innes District Roads			1894	117 3 6	117 3 6
Glen Innes to Emmaville			1881	7,642 13 8	240 19 3
Glencoe to Ben Lomond Railway Station			1893	50 0 0	15 8 0
Glencoe Station to Mount Mitchell			1890	1,169 18 1	125 16 1
Guyra to Glencoe			1895	35 12 0	35 12 0
Guyra to Sandy Creek			1890	410 14 7	81 3 5
Guyra to Kangaroo Camp			1893	1,829 5 1	921 17 9
Guyra to Oban and Kookabookra			1889	2,073 18 10	185 7 4
Glenwilliam to Banfield			1893	34 8 9	28 12 7
Gladstone to Recreation Grounds			1894	57 18 9	57 18 9
Great North Road to St. Albans			1893	104 12 11	104 12 11
Green Hill, *via* Sherwood, to Dungay Creek			1892	825 15 3	369 12 3
Green Hill Ferry to East Kempsey and Sherwood			1895	40 0 0	40 0 0
Gostwyck to New Park (Wallarobba Road)	Maintenance, repair, and construction.	Consolidated Revenue.	1882	6,934 9 2	349 8 2
Gosford to Blood Tree			1890	2,676 17 0	733 4 9
Gosford District Roads			1893	2,257 11 10	2,197 14 9
Gosford to Wyong Creek			1892	1,594 4 5	792 6 8
Gresford to Eccleston Crossing, Alleyn River			1893	200 0 0	150 0 0
Gresford to Lostock Crossing, Paterson River			„	150 0 0	100 0 0
Glennie's, *via* Chillcott's Flat, to Camberwell and Goorangoola Road			1891	116 6 8	2 5 6
Gunnedah to Malaily			1888	5,946 9 8	817 13 0
Gunnedah to Wandobah			1889	212 4 0	22 16 3
Gunnedah to Carroll North, bank of Namoi			1893	119 7 2	114 16 2
Gunnedah to Somerton			1890	1,388 18 5	199 12 8
Gunnedah to Boggabri			1894	88 18 1	88 18 1
Gloucester to Copeland			1880	4,512 0 3	379 11 6
Gloucester to Cobark			1885	2,527 10 8	436 3 5
Green's Lane to Hartford Gully			1891	132 14 2	13 19 11
Greta District Roads			1894	527 2 0	527 2 0
Geraghty's to Bryant's			1891	542 19 9	117 18 10
Great North Road, Wiseman's Ferry to Wollombi			1895	109 19 8	109 19 8
Great North Road to Ten-mile Hollow to Upper Mangrove Creek			„	10 0 0	10 0 0
Goorangoola Road to Carrow Brook			„	105 17 10	105 17 10
Goorangoola Post Office to Brosis			„	25 0 0	25 0 0
Great North Road near Uralla to Big Ridge			„	25 6 5	25 6 5
Glenarvon Road to New Cut, Hunter River			„	10 0 0	10 0 0
Gates near Burden's to Quipolly Creek			„	40 9 4	40 9 4
Goldie's Road to Water Reserve Road, Fishburns			„	34 3 6	34 3 6
Gorrick's Hill to Bull Ridge			„	64 0 0	64 0 0
Ghinni Ghinni Creek Road to Wall's Creek			„	12 12 0	12 12 0
Ghinni Ghinni Creek to Cassilis			„	19 18 6	19 18 6
George's River to Little Forest, Old Illawarra Road			„	150 0 0	150 0 0
Great South Road, between Razorback and Picton			„	13 2 10	13 2 10
Great South Road to Grenfield Railway Station			„	9 4 0	9 4 0
Goulburn to Cooma			1874	126,362 6 10	2,324 4 3
Goulburn District Roads			1895	267 0 8	267 0 8
Goulburn to Pomeroy			1880	4,941 0 8	346 7 4
Goulburn to Roslyn			1878	7,868 0 3	815 18 9
Goulburn to Mount Wayo			1892	1,179 1 5	433 19 8
Goulburn to Mummel Bridge			„	887 18 0	420 5 8
Goulburn to Bungonia			1874	7,033 5 6	257 4 11
Goulburn to Taralga			1888	8,328 0 5	1,602 11 8
Goulburn, *via* Boxer's Creek, to Main South Road			1887	310 13 7	45 9 6
Goulburn to Windellima			1876	9,133 11 11	492 18 9
Gunning to Berrybanglo			1891	466 10 7	140 1 10
Gunning to Gundaroo			1893	641 18 6	267 13 2

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Gunning and Dalton Road to Burrowa	Maintenance, repair, and construction.	Consolidated Revenue.	1892	1,428 5 6	564 11 5
Gerringong to Toolejooa Railway Station			1895	195 8 11	195 8 11
Gininderra to Gundaroo			1892	227 3 5	63 14 10
Gininderra to Bungendore			1890	1,305 4 10	102 17 8
Galong, *via* Kalangan, towards Marengo			1892	430 11 7	179 18 0
Galong towards Burrowa			1890	772 16 3	221 14 4
Gundagai to Bongongolong			1883	2,974 12 7	137 6 10
Gundagai to Wantabadgery			1892	568 17 7	228 13 3
Gundagai to Tumut			1864	25,857 15 0	1,045 19 1
Gilmore Creek to Reilley's Crossing			1872	3,667 16 1	183 19 0
Glenroy to Munderoo			1890	745 18 8	53 6 5
Gilgandra towards Coolie			1895	19 5 0	19 5 0
Germanton to Jingellic			1886	4,688 8 9	716 9 7
Germanton Main Street			1895	6 18 6	6 18 6
Germanton to Cookardina			1883	1,890 9 0	98 11 11
Germanton Streets Drainage			1895	199 0 0	199 0 0
Gerogery to Howlong			1881	11,343 5 11	606 17 9
Gerogery, *via* Jindera, to Bungowannah			1876	6,080 8 10	214 1 9
Gurrundah to Bredalbane			1895	73 1 0	73 1 0
Grogan to Stockinbingal			„	72 0 0	72 0 0
Glentaggart Lane, Harden to Marengo			„	14 19 0	14 19 0
Glenbrook Railway Station to Great West Road			„	100 0 0	100 0 0
Grose Road, Springwood			„	4 18 0	4 18 0
Grattai to Sally's Flat			1886	3,106 19 5	550 7 3
Grenfell Post Office approach			1895	15 0 0	15 0 0
Grenfell to Forbes			1887	3,107 3 6	321 3 4
Grenfell, *via* Weddin Gap, to Bimbi			1890	713 2 10	152 1 7
Grenfell to Goolagong			1885	3,246 2 10	185 7 6
Grenfell to Quondong			1890	534 9 0	85 5 10
Grenfell, *via* Bimbi, to William's Crossing			1882	5,091 17 2	360 1 6
Guntawang, *via* Wellington, to Goolma			1878	12,091 0 1	1,586 18 6
George's Plains to Caloola			1894	257 7 2	257 7 2
Goodooga to Brewarrina			1895	176 4 6	176 4 6
Glasson's Woolshed to Moorilda			„	18 4 0	18 4 0
Glebe Island Bridge to Harris-street			1892	565 9 4	66 14 3
Gardener's Road			„	5,463 10 6	3,641 6 0
Gladesville, *via* Head of Navigation, Lane Cove, to Gordon			1890	915 16 10	99 18 7
Granville to Main South Road (Woodville Road)			1889	1,627 18 0	196 13 0
Gap on Abattoir Road			1895	5 0 0	5 0 0
Gilbert's Creek to Bourke's Crossing			„	30 0 0	30 0 0
Gunn's to Yeumburrah			„	94 0 0	94 0 0
Gorman's Hill to Poor Man's Hollow			„	18 1 6	18 1 6
Gundary Creek to Windellima Causeway			„	1 0 0	1 0 0
Galston, *via* Fagan's, to Government Reserve (Cobark Road)			„	115 0 0	115 0 0
Galston and Berowra Road to Calabash Ridge			„	35 0 0	35 0 0
Galston and Fagan's Road to Calabash Ridge			„	30 0 0	30 0 0
Galston and Fagan's Road, towards Mould's and Thomas' Selection			„	10 0 0	10 0 0
Griffiths' to Frethorne's, at Galston			„	20 0 0	20 0 0
Grabenbun Creek, at Garland's Crossing			„	11 18 0	11 18 0
Harwood to Chatsworth			1883	1,413 16 9	98 15 1
Harwood, *via* Serpentine Bridge, to Chatsworth			1890	888 14 0	362 16 9
Hillgrove to Moxin's Reserve			1895	60 5 0	60 5 0
Hillgrove Road Deviation			„	191 9 4	191 9 4
Head of Popran Creek to Wharf, Hawkesbury River			„	20 0 0	20 0 0
Holey Flat to Stewart's River			1889	833 0 10	242 18 4
Hooke's Gate to Myle's Grant			1890	256 11 0	57 2 6
Humphries' C.P. to Cooranbong			1892	750 11 1	374 17 0
Harper's Hill to Allandale Railway Station			1879	670 3 4	49 19 4
Haven Road, Glenhaven			1895	60 0 0	60 0 0
Hydes's Bridge to Glenewan Road			„	44 15 0	44 15 0
Howe's Valley to Wollombi and Singleton			1893	122 15 0	22 15 0
Hayden's to Watson's (West Nimbin Road)			1891	1,255 3 6	154 13 1
Hainsville, *via* Mullimbimbi, to Byron Bay			1894	1,059 17 2	1,059 17 2
Hartigan's, up North Arm			1895	78 5 6	78 5 6
Hillston to Roto			„	64 14 9	64 14 9
Hillston to Cudgellico			„	115 16 8	115 16 8
Helensburgh to Waterfall and Darke's Forest			„	100 0 0	100 0 0
Heathcote to top of Bulli Pass			1890	1,177 17 4	339 13 9
Hoskington to Harold's Cross			„	387 14 5	79 7 11
Holt's Flat to Tantawanglo			1888	2,447 1 11	221 10 2
Henty Station to Munnyabla			1892	636 14 2	334 13 8
Humula, *via* Umbango, to Tarcutta			„	392 6 2	135 13 5
Howlong to Walbundry			1883	4,508 17 11	210 10 9
Howlong to Tocumwal			1895	394 13 6	394 13 6
Howlong to Goombargona			1890	722 15 9	161 1 2
Hay to Booligal			1879	11,842 11 11	921 6 5
Hay to Gunbar			1881	6,666 12 10	334 4 6
Hay to Wanganella			1892	581 8 3	212 5 11
Hopefield Railway Station (Road leading to)			1893	104 2 6	9 14 0
Hawthorn Tree Road			1895	15 12 4	15 12 4
Hermitage Roads and Bridges, Lithgow			1891	3,657 8 1	785 1 6
Hartley to Vale of Clwydd			1890	1,349 18 3	303 4 9
Hartley to Jenolan			1887	6,774 5 9	920 8 11
Hill End to Duramana			1890	985 3 3	203 17 0
Huntley Railway Station to Lucknow			1895	32 4 10	32 4 10
Hargraves to Wallerwaugh			„	17 6 0	17 6 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed	When Commenced	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Halfway House, *via* Abattoirs, to "White Bay Hotel"			1885	3,175 14 4	316 10 8
Hornsby to Galston			1893	6,238 10 3	4,495 12 0
Harboard Estate, Road through			1894	38 15 6	38 15 6
Hat Hill Road, Blackheath			1895	55 19 6	55 19 6
Hannah-street, Beecroft			„	55 2 9	55 2 9
Inverell towards Bingera			1879	7,623 3 8	184 17 8
Inverell District Roads			1894	15 0 0	15 0 0
Inverell to Emmaville			1881	8,641 11 2	316 17 6
Inverell to Gum Flat			1889	1,882 19 6	332 15 6
Inverell, *via* Newstead, to Kangaroo Camp			1884	6,717 14 0	679 11 11
Inverell to Bundarra			1892	657 16 2	378 13 8
Inverell, *via* Tingha, to Kangaroo Camp			1893	1,194 6 5	792 7 8
Inverell, *via* Dinton Vale, to Bukkulla			1885	1,620 10 10	141 2 8
Inverell to King's Plains			„	3,025 2 10	500 10 11
Inverell to Wallangra			1878	18,393 7 4	1,497 8 1
Inverell to Reedy Creek			1880	25,338 11 9	334 14 10
Inverell to Warialda			1877	22,419 3 3	1,905 4 8
Inverell to Strathbogie			1894	642 13 11	642 13 11
Inverell to Queensland Border			1878	13,405 19 1	1,025 4 8
Irishtown to Wollum Platform			1893	106 9 0	61 5 0
Ivanhoe, *via* Inglis and Oakey Creek, to Village Reserve			1895	39 5 9	39 5 9
Ironbark to Boolcarrol			1888	1,954 3 10	389 18 2
Ironbark to Kerr's Railway Station			1895	6 6 0	6 6 0
Illaroo to Lower Budgong			1894	218 2 6	218 2 6
Junction Bridge to Vickery's			1895	100 0 0	100 0 0
Junction, Main Road, to Grafton Butter Factory			1895	94 16 7	94 16 7
Jesswolgan to Uralba			1891	385 14 7	100 0 0
Jericho, over Big Swamp			1890	670 13 5	86 18 10
John's River Wharf to Upper Stewart's River			„	896 13 3	349 5 6
Jerry's Plains to Denman			1884	1,992 2 8	192 14 3
Johnston's Bridge to Moonbi Station			1892	220 11 8	49 14 11
Jillıby Jillıby to Littttle Jillıby			1895	75 0 0	75 0 0
Jacob and Joseph Creek to Castle Mountain			„	36 0 3	36 0 3
Jugiong to Murrumburrah			1887	2,436 3 3	171 7 0
Jindabyne to Ingebyra			1892	183 5 8	79 5 8
Jingellic to Kancoban			„	1,333 10 10	563 17 9
Jerilderie, *via* Yanko, to Goolgumbla			1891	811 18 10	109 16 3
Jerilderie to Tocumwal			1884	3,623 19 10	402 19 8
Jerilderie to Berrigan			1890	2,083 16 9	548 11 3
Junee to Cooba Creek Bridge			1891	429 9 5	162 5 6
Jindera to Yambla			1895	86 4 3	86 4 3
Jerilderie to Clear Hills			1894	268 1 3	268 1 2
Jeralong Bridge to Jeralong Gap	Maintenance, repair, and construction.	Consolidated Revenue.	1895	61 19 0	61 19 0
Kynumboon to Midgengum			1889	2,756 8 0	344 4 7
Kelly's, *via* Sharpe's, to Moonee			1890	4,075 10 10	1,615 19 0
Kempsey to Armidale and Grafton			1872	81,219 14 10	281 12 4
Kempsey to summit Jeogla Mountain			1894	2,050 8 5	2,050 8 5
Kempsey to Jeogla Mountain Road up Five Day Creek			1895	20 0 0	20 0 0
Kempsey District Roads			1893	3,090 4 4	788 14 1
Kempsey to Jeogla Mountain Road, *via* Pee Dee, to Ludkey's Selection			1895	69 7 6	69 7 6
Kelman's Gate to Branxton and Glendonbrook			1895	19 17 6	19 17 6
Killimicat Hill Deviation			1894	200 0 0	200 0 0
Kayuga Road, *via* Castle Rock, to Sandy Hollow Road			1894	67 12 5	67 12 5
Kincumber to Green's Point Wharf			1894	10 9 6	10 9 6
Kincumber to Little Beach			1893	103 14 0	102 16 6
Kangaroo Flat, Road up			1894	16 3 0	16 3 0
Krambach, *via* Patterson's, to West Wallamba			1894	121 19 8	121 19 8
Krambach to Kew (North Coast Road)			1893	4,113 5 6	2,376 18 8
Krambach, *via* Cucumbark, to Forster			1894	602 2 8	602 2 8
Koree Island Road			1890	180 7 3	39 13 9
Kayuga Road			1889	595 13 10	38 16 0
Kangaroo Flat to Quirindi			1891	139 11 4	23 16 0
Kayuga, *via* Baxters, to Aberdeen			1894	130 19 6	130 19 6
Kingswood to Luddenham Church			1892	227 2 11	35 10 11
Kangaroo Valley to Nowra			1890	2,729 10 6	827 17 6
Kangaroo Valley, *via* Brogher's Creek, to Kangaroo Mountain			1882	1,509 11 10	145 2 0
Kangaloon Road to Macquarie Pass			1890	2,010 13 4	29 2 6
Kippielaw to Bialla			1888	1,568 1 3	308 16 0
Kippielaw to Bialla towards Gurrunda			1894	20 0 0	20 0 0
Kippielaw, *via* Parkesbourne, to Bredalbane			1887	563 17 5	80 7 6
Kitty's Creek to Dog Trap Ford			1888	913 13 4	217 12 4
Kingsdale to Roslyn			1894	73 10 0	73 10 0
Kiandra Road, near Six-mile Post, to Middlingbank			1888	1,102 9 2	219 19 6
Krawaree Road, at Shoalhaven River, up Jerrabat Gully			1893	139 13 9	39 5 1
Kialla Post Office to Middle Creek			1895	69 6 3	69 6 3
Kialla Main Road, next Rixon's			1894	7 17 2	7 17 2
Kialla to Pejar			„	57 9 0	57 9 0
Koorawatha to Grenfell			„	45 0 0	45 0 0
Kirkconnell to Sunny Corner			1890	781 8 3	173 3 2
Kelso, *via* Palmer's Oakey, to River Turon			1887	10,233 0 1	495 5 9
Kelloshiel to Gowan			1878	7,177 16 7	383 2 0
Kurrajong, from Old School, to Hermitage			1893	48 0 10	12 10 0
Kissing Point Road, between Bettington's Lane and Parramatta			1894	30 0 0	30 0 0
Kelso to O'Connell			1876	9,466 13 10	258 10 5
Kelso to Kellosbiel			1895	74 1 9	74 1 9
Kelso to Monkey Hill			„	230 15 10	230 15 10

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed	When Commenced	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Kenthurst, at Woolyche's (Rouse Hill Road)			1895	20 0 0	20 0 0
Kenthurst Post Office to Porter's			1892	54 18 9	24 19 6
Little Plain to Reedy Creek			1894	63 19 4	63 19 4
Little North Arm to Bea h			1895	45 4 9	45 4 9
Lismore to Gundarimba			1891	267 0 6	171 17 8
Lismore District Roads			1887	4,729 18 5	408 1 1
Lismore to Blue Knob (Nimbin Road)			1883	19,002 13 9	945 5 6
Lismore to Numulgi (Numulgi Road)			1882	2,588 16 11	18 9 7
Lismore to Tucki			1893	10,138 11 0	292 15 11
Lismore, *via* Nightcap, to Queensland Border			1875	57,630 3 2	638 18 6
Lismore-Tucki Road to River Bank, East Gundurimba			1893	194 9 2	36 1 2
Lismore to Beardow's			1894	220 17 4	220 17 4
Lismore to Possum Shoot			1880	22,873 11 3	1,056 19 3
Lismore to Wardell Deviation			1894	150 0 0	150 0 0
Lawrence to Myall Creek			1864	137,317 12 2	848 14 10
Lycester Creek Bridge to Campbell's			1887	2,486 14 9	131 12 4
Long Bridge Road, West Maitland			1893	246 7 11	13 13 4
Levenstrath, *via* Kangaroo Creek, to Green's			1890	713 2 10	107 12 0
Letter box Road			1892	280 19 3	159 14 3
Leadville to Cassilis			1894	60 0 0	60 0 0
Laris to Toohey's Mill			1886	2,865 2 0	358 6 3
Long Reach to Clybucca			1890	262 16 10	49 14 0
Long Reach to Rainbow Reach			1891	179 14 0	34 15 0
Laurieton to Upper Camden Haven			1892	765 18 1	546 0 9
Left Bank, M'Donald's River, between Wright's Creek and Punt Crossing.			1894	2 3 1	2 3 1
Lambton to Charlestown			1883	2,752 4 4	139 0 7
Lambton and Charlestown Road to Cardiff Road			1894	94 13 2	94 13 2
Louth Park Drainage			1892	901 17 0	152 17 0
Louth Park Road, from junction Sugarloaf Road, to West Maitland			1894	150 0 6	150 0 6
Laguna to top Wattagan Mount			1895	62 15 0	62 15 0
Lochinvar to Railway Station			1885	459 19 9	51 8 8
Llangothlin Railway Station Approach			1894	59 17 6	59 17 6
Lanyon Road, near Tuggeranong, towards Bulga Creek			1894	30 0 0	30 0 0
Lanyon Ford to Booroomba			1894	25 0 0	25 0 0
Limeburners' Creek to Krambach			1894	2,678 0 7	2,678 0 7
Little Plain to Bingera			1894	683 3 5	683 3 5
Liverpool, *via* Holdsworthy's, to Eckersley's			1894	100 0 0	100 0 0
Lake Bathurst to Currawang			1891	190 3 5	5 2 0
Leighwood, *via* Golspie, to Stone Quarry			1887	624 10 10	119 2 10
Leighwood Road			1894	39 17 3	39 17 3
Laggan to Binda	Maintenance, repair, and construction.	Consolidated Revenue.	1875	2,866 2 11	132 14 6
Laggan Road, *via* Strathaird, to Goulburn Road			1895	17 5 9	17 5 9
Laggan to Golspie			1892	252 9 0	127 17 7
Lower Tarcutta to Alfred Town			1892	1,070 13 3	522 12 5
Little Spring Creek to Young Butter Factory			1895	18 14 0	18 14 0
Lochiel to Back Creek Road			1893	65 11 10	51 13 10
Larbert, *via* Reedy Creek, to Braidwood and Boro Road, at Hallett's			1893	103 10 7	78 19 11
Little Forest to Paddy's River			1894	1,170 1 9	1,170 1 9
Lower Southgate to Broadwater			1894	470 15 10	470 15 10
Lochinvar, *vi t* Luskintyre, to Dalwood			1894	119 18 0	119 18 0
Lidsdale to Wolgan			1893	256 11 0	153 10 4
Little Hartley to Hartley Vale Platform			1885	2,843 1 11	331 17 0
Lithgow to Hermitage			1894	523 9 9	523 9 9
Lowther to Gambenang			1890	505 9 9	223 3 2
Lime kilns Road to Upper Turon			1878	4,971 4 10	130 13 11
Lucknow to Orange and Carcoar			1875	4,890 5 11	409 11 10
Lyndhurst, *via* Abercombie, to Bigga			1879	7,939 5 6	474 0 7
Leeholme to Tarana and O'Connell			1872	3,803 11 5	160 9 7
Luther's to Taylor's			1894	10 0 0	10 0 0
Lane Cove to Cowan Creek, at Bobbin Head			1884	846 5 1	100 10 0
Lane Cove, *via* Stony Creek, to Pittwater			1883	6,164 16 7	294 16 7
La Perouse to Little Bay (Sanitorium Road)			1884	896 2 7	93 3 6
Leumeah Railway Station Approach			1894	45 0 0	45 0 0
Long Bay Road			1892	4,288 4 1	620 15 0
Leumeah to George's Road			1894	21 19 3	21 19 3
Lugano Ferry to Como			1895	165 5 6	165 5 6
Murwillumbah to Brunswick			1892	2,165 16 11	37 9 0
Murwillumbah to Blue Knob			1894	1,272 16 7	1,272 16 7
Murwillumbah to Possum Shoot			,,	2,016 19 1	2,016 19 1
Murwillumbah to Cudgen			1892	1,146 11 0	812 0 9
Murwillumbah to Queensland Border			1891	1,909 16 6	530 9 2
Murwillumbah, *via* Tumbulgum, to Terranora			1880	2,589 3 8	677 11 4
Middle Creek Road			1895	40 0 0	40 0 0
Minmi Court House, road at			1894	20 1 0	20 1 0
Minmi to Woodford			1878	4,438 15 0	499 8 3
Mulbring Creek Bridge to Mount Vincent			1894	7 4 0	7 4 0
Mullumbimby up Main Arm, Brunswick River			1890	934 3 0	313 15 3
Mullumbimby up Mullumbimby Creek			,,	836 2 7	205 17 6
Model Farm, Baulkham Hills, road through			1894	166 17 1	166 17 1
Maclean to Palmer's Channel			1890	725 1 3	156 5 6
Maclean District Roads			,,	2,404 19 11	168 3 0
Morumbak Embankment			1895	8 7 9	8 7 9
Main Road, Gladstone to Recreation Ground			,,	4 0 0	4 0 0
Maxville Ferry to Gumma Gumma			,,	37 5 0	37 5 0
Merriwa-Cassilis Road to Ringwood			1894	5 19 0	5 19 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Merriwa Road to Upper Dartbrook and Sparks' Creek	Maintenance, repair, and construction.	Consolidated Revenue.	1888	789 4 9	111 17 0
Merriwa to Cassilis			1891	4,567 19 7	931 17 9
Merriwa School of Arts Approach			1894	20 0 6	20 0 6
Moleville to Stockyard Creek			1889	472 10 3	94 5 9
Maybole to Ben Lomond Railway Station			1892	186 8 1	51 5 11
Moree to Warialda			1894	347 18 6	347 18 6
Moree, *via* Goonal, to Mogil Mogil			1887	5,352 16 7	344 12 2
Moree Road, *via* Reeves, to Pallal Road at Bangheet			1894	45 5 0	45 5 0
Moree to Terry Hie Hie			1892	1,017 8 0	452 4 3
Moree to Mungindi			1894	1,049 6 10	1,049 6 10
Moree to Bogamildi			1895	165 1 0	165 1 0
Moree towards Bingera and Ezzies'			,,	180 3 1	180 3 1
Millie to Meroe			1893	371 5 10	58 6 1
Millie to Moree			1890	2,735 14 1	302 18 7
Moonee to Congarini (Coast Road)			1894	1,817 11 11	1,817 11 11
Marx Hill to Campbell's Crossing			1889	1,134 12 5	265 2 5
Mosquito Island Road			1894	49 19 2	49 19 2
Mundooran to Tundabrine Creek			1895	15 0 0	15 0 0
Missabotti to Coast Road			1878	6,165 0 0	408 14 4
Myers' C.P. to Never Never Plains			1884	1,634 16 5	197 8 0
Marlee Road to Minns' and Gillogley's			1892	61 12 3	19 14 9
Main North Road at London Bridge to Carroll's Creek			1894	80 0 0	80 0 0
Main North Road to Old Inverell Road at Green's Valley			,,	24 6 0	24 6 0
Main North Road at Harper's Hill			,,	50 0 0	50 0 0
Main North Road to Lincoln's Creek (Muscle Creek Road)			1885	1,826 9 10	161 13 1
Main North Road up Dry Creek			1894	22 9 10	22 9 10
Main North Road, Glen Innes to Red Range			,,	38 7 0	38 7 0
Main North Road to Beggery Creek			,,	6 0 0	6 0 0
Main North Road at Eight-mile to Puddledock			,,	48 18 8	48 18 8
Myocum to Tyagarah			1892	330 5 7	113 19 1
Mitchell's Island Roads			1887	1,566 15 9	176 13 5
Massey's Creek to Gresford and Eccleston Road			1894	25 0 0	25 0 0
Morrissett to Cooranbong			1891	4,228 0 5	216 9 6
Mount Druitt Railway Station Approach			1895	3 0 0	3 0 0
Maitland Road, *via* Jilliby and Mandalong, to Morrissett			1893	1,438 6 8	1,151 12 3
Maitland Road to Tuggerah Lakes			1891	753 13 1	286 10 4
Maitland and Paterson Road to Luskintyre Bridge			1887	1,949 16 11	398 6 2
Maitland District Roads			1893	1,358 13 9	980 8 6
Maitland Road to Earl's C.P.			1894	60 0 0	60 0 0
Maitland and Dagworth Road along Wallis Creek			1887	663 19 7	117 4 6
Maitland Road to Junction of Jilliby and Mandalong Road			1893	125 15 10	68 10 11
Maitland Road to Government Reserve to Head of Ourimbah Creek			1892	943 14 10	672 1 1
Maitland Road, Ourimbah, to McDonnel's			1895	11 2 0	11 2 0
Magpie Hollow to Cox's Creek			,,	99 10 10	99 10 10
Mount Kanwary to Hinton			1887	1,432 14 7	197 19 8
Morpeth, *via* Hinton, to Dunmore and Clarencetown			1892	478 1 2	230 3 3
Morpeth to Largs			1894	100 0 0	100 0 0
Muswellbrook District Roads			1893	681 6 2	99 17 6
Muswellbrook Bridge to Sandy Hollow			1888	4,252 15 5	548 5 6
Muswellbrook, *via* Gungal, to Merriwa			1893	3,289 3 1	1,846 4 10
Moonan to Kangaroo Camp			1891	376 10 9	16 9 0
Malally to Denison Town			1892	3,231 1 10	1,227 3 0
Mail Station to Llangothlin Railway Station			1890	349 17 4	61 4 2
McIntosh's to Nymboida			,,	1,574 4 0	354 11 0
McIntyre's Flat to Puddle Dock			1880	680 3 8	129 10 7
Macleay River at Kempsey, Borings			1894	54 18 0	54 18 0
Maidenhead to Bonshaw			,,	137 12 7	137 12 7
Macksville to Upper Warrell Creek			1886	447 17 7	37 16 0
Macksville to Macleay Heads			1885	1,191 3 5	98 6 0
Main South Road to Wombeyan Caves			1892	891 13 6	56 19 0
Main South Road to Bullio			1890	820 9 10	291 1 8
Main South Road to Roman Catholic Cemetery, Foot Razor-back			1892	799 9 3	15 13 4
Main South Road to Upper Brogo			1895	35 15 0	35 15 0
Main South Road at Camden to Westbrook Bridge			1894	85 19 0	85 19 0
Main South Road to Cemetery, Mittagong			,,	50 0 0	50 0 0
Main South Road to Line of Water-pipes, Bankstown			,,	90 0 0	90 0 0
Main South Road to Colo Vale Road			,,	50 0 0	50 0 0
Main South Road to Parsonage, Berrima			1895	15 0 0	15 0 0
Main South Road, Womergana, to Road at Dora Dora Station			1894	88 18 4	88 18 4
Main South Road to Picton Lakes			,,	74 18 5	74 18 5
Main South Road to Hawksview Bridge			,,	269 0 0	269 0 0
Menangle to Main South Road to Thorn's Farm			,,	77 6 6	77 6 6
Main South Coast Road			1879	113,054 5 6	12,208 8 3
Main South Coast Road to Nowra Railway Station			1893	84 1 0	29 1 0
Mittagong to Argyle Road			1879	1,683 3 7	80 1 8
Moss Vale to Wallenderry (Meryla Road)			1882	6,406 3 6	648 4 6
Moss Vale towards Kiama			1890	4,690 12 3	851 1 8
Moss Vale District Roads			1893	700 18 11	358 5 0
Moss Vale to Barrengarry			1890	5,734 6 8	1,175 1 6
Moss Vale, *via* Berrima, to Mandemar			,,	1,006 11 2	323 12 0
Menangle to Stoney Creek			1892	289 16 10	90 0 0
Merton to Corowa			1895	165 14 0	165 14 0
Mongarlow, *via* Charley's Forest, to Wog Wog			,,	155 2 1	155 2 1
Mount Wayo, *via* Tuena, to The Abercrombie			1881	31,487 7 4	961 3 5
Morebank Avenue to Liverpool			1894	16 5 0	16 5 0
Mummel Bridge, *via* Wheeo, to Narrawa			1892	1,763 3 11	690 17 6

Return of Public Works—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Mulwarra to Morton			1895	15 0 0	15 0 0
Marulan, *via* Windellima, to Oallen Crossing			1878	10,272 7 6	718 0 7
Marulan, *via* Long Reach, to Bannaby and Taralga			1892	1,715 3 2	746 10 10
Murrumburrah, *via* Currawang, to Kingsvale			,,	251 4 3	91 10 10
Mongo to Major's Creek, Elrington			1871	6,475 19 9	175 19 10
Major's Creek to Fairfield			1880	4,955 4 10	428 8 6
Mary and Sangar Streets, Corowa			1895	31 4 0	31 4 0
M'Pherson's Gate to Black Flat			1894	50 0 0	50 0 0
Main-street, Germanton			,,	174 15 6	174 15 6
Mogo to Tomakin			1887	774 15 5	38 1 2
Mogo to Buckenboro			1894	53 17 6	53 17 6
Murray-street, Tumberumba			1895	6 5 6	6 5 6
Merimbula to Jellat Jellat			1874	2,793 5 1	120 16 2
Murga, *via* Reedy Creek, to Bumbory Railway Station			1894	20 3 3	20 3 3
Mathoura to Bunaloo			1888	1,504 5 5	86 6 4
Mitchell's Lane, Nowan, to Mullinganara			1894	184 11 2	184 11 2
Main Adelong Road, along Eastern Boundary of Simpson's			,,	12 7 6	12 7 6
Moulamein to Yanga			1892	876 19 4	504 6 1
Moama to Moulamein			1875	13,321 13 2	379 2 6
Moama to Thyra			1892	430 0 7	187 15 6
Moama to Bama			1888	544 14 8	36 8 4
Moylan's, *via* Kydra, to Nimitybelle			1895	33 6 6	33 6 6
Murrumbateman to Gininderra			1893	236 11 0	189 4 7
Mettagang to Billyrumbuck			1891	99 8 2	47 10 0
Monteagle to Monteagle Platform			1895	114 5 0	114 5 0
Marengo, *via* Marengo Flat, to Koorawatha			,,	50 0 0	50 0 0
Muyra, *via* Reedy Creek, to Brinbury Railway Station			,,	29 17 3	29 17 3
Macquarie River, Warren, Protection of Bank			,,	774 9 2	774 9 2
Mundaroo to Ournie			,,	36 14 2	36 14 2
M'Grath's Corner to Mundonga School			,,	8 17 6	8 17 6
M'Donald's Road			,,	8 4 0	8 4 0
M'Donald's River Road up Gorrick's Run			,,	250 0 0	250 0 0
M'Naughton's to Law's, Harwood Island			,,	30 0 0	30 0 0
M'Donald's River, between Wright's Creek and Punt Crossing			,,	7 16 11	7 16 11
Milparinka and Tubbuburra Road			,,	28 13 10	28 13 10
Main Street, Brewarrina			1894	108 16 0	108 16 0
Main West Road at Breakfast Creek			1895	20 0 0	20 0 0
Main West Road to Chatsworth, *via* Mt. Capicure (Wallgrove Road)			,,	45 3 5	45 3 5
Main West Road to South Creek			,,	40 2 6	40 2 6
Main West Road, Yethon to M'Cabe's			,,	24 5 0	24 5 0
Main West Road at Emu Plains to Lapstone Range			,,	31 2 0	31 2 0
Main West Road to Cross Roads, Cabramatta	Maintenance, repair, and construction.	Consolidated Revenue.	1893	272 17 0	252 18 4
Main West Road to Bankstown			1892	260 6 1	20 0 0
Main West Road, St. Mary's, to Blacktown Road			1878	1,510 12 3	200 2 4
Main West Road at Collector towards Chatsworth			1895	25 0 0	25 0 0
Main West Road to Road, Meadow Flat to Tarana			,,	31 3 0	31 3 0
Main West Road to Bloomfield			,,	1 6 2	1 6 2
Main West Road to Huntley Railway Station			,,	1 1 8	1 1 8
Main West Road at Castle Hill to Government Reserve			,,	5 0 0	5 0 0
Main West Road, past Prospect Church, to Blacktown Road			1894	10 0 0	10 0 0
Mount Victoria to Bell's Platform			1885	2,393 8 6	82 19 7
Mount Victoria to Mount York Reserve			1894	80 0 0	80 0 0
M'Guire's Corner, through Pitt Town, to Great North Road at Dural			,,	30 0 0	30 0 0
Mutton's Falls to O'Connell			1890	452 15 2	160 16 3
Marangaroo to Meadow Flat			,,	1,199 5 7	266 5 2
Meadow Flat to Sunny Corner			1891	971 3 1	309 6 2
Meadow Flat to Tarana			1885	1,210 3 1	51 14 0
Martin's to Spring Hill Station			1882	1,230 0 1	153 18 11
Mount Lawson, *via* Judge's Creek, to Burraga			1880	8,441 3 10	469 19 2
Mitchell's Creek to Palmer's Oakey			1879	4,024 10 8	253 19 6
Millthorpe to Cadia			1878	8,080 18 9	307 5 6
Millthorpe to Lewis Ponds			1890	1,125 15 7	381 7 0
Millthorpe, *via* Guyong, to Byng			1882	2,831 13 2	142 8 6
Monkey Hill to Hill End			1876	12,922 0 1	592 3 10
Molong to Gumble			1895	86 13 6	86 13 6
Mount Druitt Railway Station Approach			1894	206 5 6	206 5 6
Mandurama to Galley Swamp			1881	2,412 7 7	60 17 0
Mandurama to Burnt Yards			1889	660 14 2	106 5 10
Mandurama to Canowindra			1873	16,090 6 7	181 12 2
Mandurama to Neville			1895	73 17 3	73 17 3
Mount M'Donald to Grabine			1889	952 0 9	161 15 11
Mount M'Donald to Darby's Falls			1894	99 18 2	99 18 2
Mount Mooby to Spring Gully			1895	40 0 0	40 0 0
Matthew's to Brown's Creek Mines			1885	1,656 7 0	179 6 6
Murray's Run to Bumble Hill			1894	173 0 0	173 0 0
Mullion Railway Station to Ophir			1894	59 4 0	59 4 0
Mullion Station to Belgravia			1891	320 15 11	58 3 3
Molong to Obley			1866	17,212 3 2	279 12 6
Molong to Gumble			1895	22 9 0	22 9 0
Molong to Norah Creek			1890	498 15 6	117 5 8
Molong and Norah Creek Road to Molong and Toogong Road			1895	1 3 0	1 3 0
Molong, *via* Boree and Big Flat, to Cargo			1889	1,356 4 7	279 5 0
Molong to Warne Railway Station			1882	3,506 19 1	212 9 8
Molong, *via* "Toohey's Inn," to Toogong			1880	10,275 7 5	720 5 3
Mulwarree Creek Crossing near Bathurst Railway Station			1895	7 13 0	7 13 0
Mumbil Railway Station to Burrendong			1880	830 5 4	128 1 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895. £ s. d.	Amount expended from 1 January, 1894, to 30 June, 1895. £ s. d.
ROADS AND BRIDGES—*continued.*					
Milparinka to Tibboburrah Road			1892	501 0 3	99 0 0
Mullion Creek to Calena Marble Quarry			1895	36 8 0	36 8 0
Moorilda to Neville			1893	639 7 8	398 1 6
M'Grath's Hill to Maroota			1890	2,673 9 9	754 1 11
M'Donald's River, up Webb's Creek			1893	95 17 8	22 10 0
Milson's Point, *via* Lane Cove Road, to Peat's Ferry			1875	50,482 11 0	2,290 5 3
Manly, *via* Pittwater Road, to M'Garr's Creek			1884	1,705 9 10	160 14 4
Manly Cove to Pittwater			1879	14,551 6 3	1,102 13 2
Military Road, St. Leonards			1885	9,371 3 8	463 7 1
Missendon Road			1891	360 0 0	90 0 0
Maida-street, East Carlingford			1895	19 12 0	19 12 0
Malton-street, Beecroft			1895	29 17 0	29 17 0
Northern Road—Main			1857	615,406 13 6	10,612 10 8
Northern Road, at M'Dougall's Hill, to Jerry's Plains			1894	184 15 9	184 15 9
Northern Road, at Rix's and Glennie's, to Goorangoola Road			1895	3 14 6	3 14 6
Newrybar to Hutchinson's			1891	202 0 4	70 3 5
Newton Boyd Road to Emmaville			1875	8,569 6 11	226 11 7
Narrabri, *via* Moree, to Mungindi			1876	22,739 12 10	844 0 1
Narrabri to Little Mountain			1891	1,029 16 1	31 13 3
Narrabri, *via* Walgett, to Brenda			1879	26,756 12 1	116 3 6
Narrabri to Eulah and Bullawa Creeks			1888	2,504 8 2	268 5 0
Narrabri to Bingera			1880	16,960 0 7	179 8 4
Narrabri to Pilliga			1893	1,343 8 3	970 1 11
Narrabri to Boggabri, *via* Terriaro			1888	2,738 11 11	271 18 4
Narrabri to Terry Hie Hie			„	2,696 8 8	650 14 5
North Arm Road, at M'Kay's, up Buckra, Bendini Creek, to Smith's Selection			1891	147 17 8	77 18 10
Newcastle, *via* Hamilton and Plattsburg, to Minmi			1884	5,132 16 3	1,088 5 9
Newcastle District Roads			1893	323 18 3	173 18 3
Nowendoc to Walcha			1879	4,849 7 9	493 6 7
Nowendoc Road to Dolly's Flat			1895	8 0 0	8 0 0
North Sumaresq Bridge towards Uralla			1894	70 0 0	70 0 0
Nundle to Crawney			1895	129 4 3	129 4 3
Nambucca Ferry to Gumma Gumma			„	0 3 6	0 3 6
Native Dog Hut Road			„	38 3 0	38 3 0
North Codrington Wharf Road			„	69 6 6	69 6 6
Narellan to Luddenham			1892	1,531 7 6	592 2 1
Narellan to Elderslie			„	59 18 6	30 0 0
North-west corner Fernier's portion of Rock			1895	17 4 10	17 4 10
Nowra to Yalwal			1881	4,363 12 7	448 3 9
Nowra to Nerriga			1882	9,139 6 11	1,109 8 3
Nowra to Illaroo			1893	343 7 10	286 18 0
Nowra District Roads	Maintenance, repair, and construction.	Consolidated Revenue.	1895	171 6 5	171 6 5
Narrawa Road, near Roche's, to junction of Pudman Road			1885	1,066 15 2	172 16 3
Nerriga to Tarago			1892	491 9 3	92 0 5
Numby, *via* Graham and Frogmore, to the Goulburn Road			1892	932 3 3	344 10 3
Nelligen to Bateman's Bay			1884	892 4 6	57 11 0
Nelligen to Milton Road, at M'Millan's			1874	1,839 16 3	54 3 5
Nelligen to Bolaro			1895	49 14 8	49 14 8
Narooma to Tilba			1893	595 2 0	369 3 0
Nimitybelle to the top of Brown Mountain			1892	1,161 5 7	467 8 7
Nimitybelle to Bobundarrah			1887	1,116 4 6	43 10 6
Nimitybelle down Tom Grogan's Creek			1894	97 15 4	97 15 4
Nimitybelle towards Kydra			1895	0 15 0	0 15 0
Narrandera to Old Goree Bridge			1892	489 10 9	220 8 0
Nattai River to Barker's Junction			1893	354 7 0	82 6 0
Narrow Bridge Road			1895	83 16 0	83 16 0
Native Dog Flat to Grabben Gullen			„	49 18 3	49 18 3
Nogle's Swamp, Corowa			„	44 0 0	44 0 0
Nursery off Rooty Hill to Blacktown Road			„	15 0 0	15 0 0
Newbridge to Arthurtown and Abercrombie River			1887	15,460 15 6	542 2 0
Newbridge to Evans' Swamp			1885	1,934 16 10	200 0 0
Newbridge to Caloola			1879	3,569 1 9	113 1 9
Newbridge and Caloola Road to Rockley			1889	1,594 2 5	207 15 3
Nymagee to Refrigerating Works			1895	28 0 0	28 0 0
Nymagee to Nyngan and Cobar Road			1890	1,013 16 6	118 0 0
Nevertire to Warren			1892	1,397 15 5	879 3 5
Nymagee to Melrose			1894	121 8 3	121 8 3
Nymagee to Priory			„	36 18 8	36 18 8
Neville to Dairy Creek			1893	105 3 2	100 0 0
Narromine to the Bogan			1895	68 0 0	68 0 0
Nelly's Glen Road, Katoomba			„	160 4 8	160 4 8
Newtown Railway Bridge to Undercliff Bridge			„	622 5 0	622 5 0
North Colah to Berowra Creek			„	96 0 0	96 0 0
Old Ballina Road			1889	323 9 8	61 16 5
Old Port Macquarie Road, up Right and Left Banks, Lansdown River			1890	703 0 4	272 10 7
Oakes' Plains to Nambucca			„	3,364 19 0	5 10 0
Oxley Island Roads			1887	2,931 8 5	208 0 10
Old Inn to Booral Road			1889	1,377 12 7	35 11 3
Old Ourimbah to Tuggerah Lakes Platform (Goldie's Road)			1893	318 0 6	293 11 6
Old Moonbi to Moore Creek			1892	85 5 4	35 11 4
Owen's Wharf, up Left Bank Kinchela Creek			1889	687 14 3	24 17 0
Outlet Road to Dungay Creek			1894	49 19 10	49 19 10
Old Condong Road			1895	54 11 5	54 11 5
O'Keefe's to Freshford			1895	10 0 0	10 0 0
Oakes' to Foot of Mountain			1893	718 14 11	360 10 5

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, Amount of Expenditure to 30 June, 1894.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Oakes' to Werombi			1893	103 8 0	63 5 6
Old Burra Road to Michelago			1886	1,375 5 2	178 15 8
Oakdale to Nattai Junction to Barker's Lodge			1895	347 9 1	347 9 1
Old Hand Gully, Deviation			1895	9 2 0	9 2 0
Oberon to Shooter's Hill			1883	1,342 12 2	159 5 5
Oberon to Jenolan			1877	5,120 9 2	353 19 8
Oberon to Little River			1877	4,499 7 2	491 14 2
O'Connell to Swatchfield			1879	4,511 10 11	241 2 8
O'Connell to South Apsley			1885	2,380 18 6	296 12 11
O'Connell to Oberon			1879	7,405 11 2	393 4 10
Orange to Pinnacle			1884	1,373 15 11	131 4 0
Orange to Ophir			1864	4,959 12 9	187 3 10
Orange to Ophir Road to Lewis Ponds			1895	20 14 0	20 14 0
Orange to Mullion			1880	1,488 6 8	121 9 2
Orange to Rifle Range			1895	2 3 2	2 3 2
Orange to Canoblas			1881	3,731 14 5	345 3 0
Orange to Cadia Gate			1880	5,514 5 1	340 3 1
Orange and Forbes Road to Orange and Cargo Road			1895	10 10 0	10 10 0
Orange and Cadia Road to Four-mile Creek			1889	1,238 11 6	249 4 2
Orange to Forbes			1886	94,941 14 3	2,865 1 6
Orange and Cargo Road to Cudal			1891	325 15 1	117 3 0
Orange, *via* Treweek's, to Lewis Ponds			1893	176 12 4	89 10 4
Orange to Icely			1881	3,182 1 5	208 5 10
Orange to Forest Reefs			1871	16,988 16 5	274 8 10
Orange to Cargo			1888	3,031 18 9	384 11 1
Orange and Cargo Road to Boree			,,	612 13 2	23 13 3
Old Ironbarks Road to Kerr's Creek Railway Station			1895	21 7 0	21 7 0
Old Castle Hill to Government Reserve			,,	15 0 0	15 0 0
Old Windsor Road to Road from Seven Hills Road (Abbott's Road)			,,	40 0 0	40 0 0
Old Windsor Road to Blacktown Road			,,	5 0 0	5 0 0
Old Pejar Road			,,	32 0 0	32 0 0
Old Canterbury Road, Petersham, to Ashfield			1889	1,231 9 0	156 14 2
Prospect Road, Woodford Island			1895	32 10 10	32 10 10
Possum Shoot to Cooper's Shoot			1887	9,835 12 11	196 2 2
Possum Shoot to Brooklett			1892	773 19 4	286 16 4
Possum Brush to Forster Road			1891	567 6 3	111 14 0
Puddledock Road towards Springmount			1895	22 11 10	22 11 10
Pimlico to Wardell and Ballina Road		[illegible]	1889	286 4 8	157 17 2
Pimlico Point to Emigrant Creek Point			1890	181 13 10	41 18 0
Pokolbin Hill to Cessnock Road			1895	20 0 0	20 0 0
Punkalla to Mount Dromedary			,,	100 0 0	100 0 0
Pearce's Corner to Teven Junction			1890	942 13 6	133 10 0
Palmer's Island Road	Maintenance,	Consoli-	,,	929 10 6	252 2 3
Palmer's Plain to South Gundarimba	repair, and	dated	1894	401 1 0	401 1 0
Palmer's Channel to Reedy Creek	construction.	Revenue.	1895	49 16 9	49 16 9
Pilliga to Walgett			1893	795 14 8	498 4 1
Pilliga, *via* Buglebone, to Eurie			1894	305 5 3	305 5 3
Pye's Creek Mines to Bolivia Railway Station			1889	1,620 8 7	102 14 4
Punt Bridge, *via* Wamberal, to Tuggarah Lakes			1893	1,330 5 9	1,310 5 9
Punt Bridge to West Blowering			1895	9 19 0	9 19 0
Pearson's to Duval			1890	354 17 11	35 9 0
Pearson's to Trimble's			1893	82 18 0	46 8 0
Peterkin's Bridge, *via* Right Bank Warrel Creek, to Nambucca			1889	903 18 0	120 0 0
Paterson Wharf, Approach			1895	14 2 6	14 2 6
Porter' Road to Kenthurst			1895	10 0 0	10 0 0
Port Macquarie to Tacking Point			1886	612 2 7	39 0 8
Port Macquarie to Kew			1892	1,527 1 1	95 2 0
Pappenbarra Creek to Cowal			1888	1,488 19 9	130 19 0
Piambong to Mudgee			1895	24 6 0	24 6 0
Pint-pot Creek to Chandler River			1893	151 10 5	127 8 5
Pembroke-street, Carlingford			1895	49 19 6	49 19 6
Pokolbin Village Reserve to M'Donald's			1887	633 5 2	122 15 2
Pearce's and Behan's to Eatonsville			1895	3 17 0	3 17 0
Pambula Road Survey			,,	11 18 0	11 18 0
Pambula to Bald Hills			1890	135 10 9	53 3 9
Pambula to Merimbula Junction			1867	4,184 7 10	154 13 0
Pambula to Merimbula			1890	839 4 9	298 16 0
Peel River Co., Boundary Gate, to Duri Railway Platform			1895	10 0 0	10 0 0
Picton Post Office to Picton Railway Station			,,	178 2 0	178 2 0
Picton to Oakes			1874	16,682 11 9	341 10 9
Picton Lakes to Hill Top, with Branch to Buxton			1895	12 0 0	12 0 0
Perico to Wog Wog			1889	973 5 7	80 11 6
Prahan, *via* Cowbed, to Snowy Plain			1890	1,015 15 0	250 12 4
Pitt Town Village Settlement to Windsor and Pitt Town			1894	210 0 0	210 0 0
Pitt Town, *via* North Rocks, to Kewhurst			,,	25 0 0	25 0 0
Perth to Mount Evenden			1895	17 17 0	17 17 0
Perth, *via* Charlton, to Rockley			,,	131 6 3	131 6 3
Piper's Flat Station to Meadow Flat and Mitchell's Creek			1886	2,347 16 1	144 0 1
Peel to Duramana			1879	2,077 9 5	87 6 2
Peel to Junction, Kelso and Sofala Road			1888	480 6 5	63 16 11
Panze-street, Nyngan			1893	500 0 0	300 0 0
Parsonage at Castle Hill to Windsor Road			1895	20 0 0	20 0 0
Parkes to Coradgery			1888	1,565 15 10	290 16 2
Parkes to Balderogery			1887	1,398 5 0	42 19 0
Parkes to Condobolin			1884	8,916 5 1	790 6 11
Portion No. 56, at North-east Corner, parish of Cullingar			1895	24 0 11	24 0 11

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, Amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Penrith *via* Castlereagh to Blacktown Road, at Larras Grant	Maintenance, repair, and construction.	Consolidated Revenue.	1894	282 9 4	282 9 4
Penrith to Dr. Clarke's Bridge			,,	60 0 0	60 0 0
Portland Ferry *via* Mitchell's to Wiseman's Ferry			1895	46 17 0	46 17 0
Portland Ferry, *via* Hall's, to Sackville Ferry Road			,,	0 12 3	0 12 3
Parramatta and Toongabbee Road to Oak's Farm			,,	3 16 0	3 16 0
Parramatta District Roads			,,	439 11 10	439 11 10
Parramatta to Pennant Hills			1885	1,145 10 9	213 12 0
Parramatta, at East end of Broken Back Bridge, *via* Windsor and Richmond, to Richmond Bridge (portion Parramatta to Rouse Hill)			1889	4,579 3 9	1,430 3 9
Pearce's Corner to Pennant Hills			1884	2,404 12 5	539 10 6
Pearce's Corner to Brooklyn Railway Station			1894	483 8 3	483 8 3
Peat's Ferry to Berowra Creek			1885	519 5 1	25 12 2
Pennant Hills Road to Mould's Corner			1892	463 5 5	226 13 11
Pennant Hill's Road to Shephard's			1894	9 2 0	9 2 0
Petersham to Abattoirs			1886	4,537 11 11	510 3 8
Pittwater Road			1894	194 18 0	194 18 0
Pittwater to Barrenjoey			1886	1,768 13 10	172 17 6
Pyrmont Bridge Road			1884	13,283 9 9	380 12 0
Public Instruction Department Road, in front			1895	81 18 1	81 18 1
Page's Creek Road			,,	80 0 0	80 0 0
Pipe Clay Creek (Fencing)			,,	46 10 0	46 10 0
Quirindi to Gunnedah			1894	255 15 8	255 15 8
Quirindi, *via* Bundella, to Bomera			,,	1,877 15 8	1,877 15 8
Quirindi District Roads			,,	338 9 0	338 9 0
Quirindi, up Jacob and Joseph Creeks			1879	1,080 1 0	176 4 3
Quirindi to Werris Creek			1891	92 4 0	3 17 4
Quirindi, towards Warrah Bridge			1894	14 0 0	14 0 0
Quirindi, *via* Colly Blue, to Bomera			1885	6,059 19 4	93 3 4
Quirindi, towards Borah Creek			1894	32 16 7	32 16 7
Quilkie's, down Taylor's Arm, South Side			,,	40 19 11	40 19 11
Quirindi Creek Crossing, at Castle Mountain			,,	7 0 0	7 0 0
Quambone to Warren			,,	29 3 4	29 3 4
Queanbeyan to Uriarra Post Office			1881	2,676 2 10	265 6 4
Queanbeyan to Gundaroo			1874	25,194 12 0	283 6 0
Queanbeyan to Gudgenby			1891	570 9 3	404 13 5
Queanbeyan to Gininderra			1878	9,756 2 6	217 8 5
Queanbeyan District Roads			1894	95 6 6	95 6 6
Queanbeyan, *via* Cohen, to Bungendore			,,	55 7 0	55 7 0
Queen-street, Circular Quay			1892	4,962 8 1	13 18 11
River Bank, at Gears, to Grafton Butter Factory			1894	48 0 6	48 0 6
Reddacliffe's to Brunswick River			1892	1,547 13 8	248 3 10
Road up Right Bank, Clarence River			1894	49 2 6	49 2 6
Red Range Road to Bear Hill			,,	53 5 4	53 5 4
Raleigh Mill to Little North Arm			1833	4,320 5 11	380 0 0
Road up Khatambahl Creek			1894	20 0 0	20 0 0
Rous Factory, *via* Beeson's, to Wardell Road			1890	1,583 12 9	668 0 10
Road up Left Bank, Wilson's River			1894	9 9 0	9 9 0
Red Hill to Kerr's			1892	274 7 1	112 19 1
Road from portion 56, North-east Corner, running westward			1894	75 19 1	75 19 1
Rockvale to Kookabookra			1890	617 15 7	186 17 5
Rocky Creek to Terry Hie Hie			1892	538 16 6	100 6 5
Rothbury Public School, Allandale, road to			1894	50 0 0	50 0 0
Rossi's to Coggin's Old Pegar Road			,,	26 12 8	26 12 8
Rolland's Plains to Dungay Creek			1892	2,652 18 1	130 4 10
Rolland's Plains to Brill Brill			1894	10 0 0	10 0 0
Rawden Island Roads			1885	912 2 2	70 2 7
Road up Thone Creek, from New England Road to Killmurry's Falls			1894	18 0 0	18 0 0
Raymond Terrace and Stroud Road to Saltash			1893	387 11 10	239 9 6
Raymond Terrace and Morpeth Road to Martin's Wharf			1891	452 18 6	114 8 9
Raymond Terrace to Hexham			1884	3,246 3 7	285 16 8
Raymond Terrace and Stroud Road to Raymond Terrace and Seaham Road (Miskell's Road)			1890	140 2 6	60 10 0
Raymond Terrace and Stroud Road to Raymond Terrace and Clarencetown Road (Caswell's Road)			1891	212 1 9	49 18 4
Raymond Terrace by East side Williams River to Seaham			1884	2,295 2 0	297 16 9
Raymond Terrace to Morpeth			1891	3,483 4 8	608 19 3
Raymond Terrace and Morpeth Road to East Maitland			1894	140 0 0	140 0 0
Raymond Terrace to Limeburner's Creek			1891	1,999 9 6	785 0 7
Raymond Terrace to Williamstown			1894	232 1 8	232 1 8
River-street, Cundletown			,,	48 10 6	48 10 6
Road and Approach, Brockleysleigh Railway Station			,,	71 19 6	71 19 6
Redbank to Merregoen			,,	102 19 0	102 19 0
Road off Coban Road, Galston to Wigley's			,,	10 0 0	10 0 0
Roads on left bank, Macleay, Skillion Flat to Warneton			,,	274 17 5	274 17 5
Risleys to Monticollum			1892	851 10 3	292 13 2
Road leading from Carrington to Wickham Bridge			1894	50 0 0	50 0 0
Rothburg to Pokolbin Public School			,,	60 0 0	60 0 0
Robertson to Macquarie Pass			1890	1,432 10 9	641 5 5
Round Mountain Road			1894	43 9 0	43 9 0
Richlands to Wearborough Creek			1893	115 13 6	75 2 6
Roslyn to Curradbungla and Taralga			1894	50 0 0	50 0 0
Reidsdale to Warnumbucca (Tudor Valley Road)			1889	278 11 4	68 15 1
Rock Station, *via* Frenche's Park, to Green's Gunyah			1894	156 14 10	156 14 10
Riley's Crossing to Batlow			1892	398 1 8	185 8 3
Runnymede to Buckenboura			1894	75 0 0	75 0 0
Road to Walla Walla Railway Station			,,	23 17 0	23 17 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895. £ s. d.	Amount expended from 1 January, 1894, to 30 June, 1895. £ s. d.
ROADS AND BRIDGES—*continued.*					
Rock Station to Urana			1883	10,366 17 6	624 16 11
Rock Urana Road to Pleasant Hills			1894	26 0 0	26 0 0
Rosewood, *via* Humula, to Kyamba			1891	906 18 1	231 1 9
Rosewood to Coppabella			1894	115 13 5	115 13 5
Run of Water to Lake George			1891	588 19 0	318 4 8
Run of Water to Parkesbourne			1887	434 8 6	75 14 2
Road through Leath's, Rouse Hill			1894	30 0 0	30 0 0
River-street, Balmoral			,,	50 0 0	50 0 0
Rous Hill to Schofield's Platform			1888	762 8 8	71 18 6
Rous Hill and Nelson's Road to Selections on Cadia Road			1893	65 10 0	40 0 0
Round Corner at Dural to Rouse Hill			1894	45 0 0	45 0 0
Richmond Bridge to King's Road			1888	7,225 7 9	1,049 19 4
Ranken's Wool-shed, Wyangle			1894	19 18 0	19 18 0
Rooty Hill Station to Main West Road			1890	659 11 6	198 11 3
Rydal to Hampton			,,	1,929 13 4	679 0 2
Rockley to Charlton			1887	1,418 8 6	175 17 1
Rockley to Trunkey			1874	5,265 3 6	256 4 5
Rockley to Isabella River			1883	3,178 3 5	251 2 4
Rockley to Swallow Nest			1880	2,522 4 8	98 5 2
Regan's Crossing Deviation			1891	455 7 2	454 10 11
Rylstone to Bylong			1886	2,771 12 3	435 7 7
Repairs to Crossing Deviation, Carcoar to Trunkey			1894	75 17 5	75 17 5
Richlands to Wombeyan Caves			1887	1,000 14 0	97 17 9
Rylstone, *via* Bogie, to Capertee			1895	109 13 11	109 13 11
Road past Callan Park Asylum			,,	63 0 0	63 0 0
Randwick Toll-gate to La Perouse			1893	551 15 9	380 15 6
Randwick and Coogee Roads			,,	1,750 0 0	1,500 0 0
Ricketty-street (widening)			1889	13,800 0 0	9 15 9
Roads within limits of Hurstville, Rockdale, Canterbury, &c.			1894	1,962 0 0	1,962 0 0
Road through Model Farm, Baulkham Hills			,,	59 5 0	59 5 0
Road off Broken Back Bridge towards Baulkham Hills			,,	10 0 0	10 0 0
Ray's Road, Carlingford			,,	75 0 0	75 0 0
Rocky Point Road			,,	250 0 0	250 0 0
South Lismore to Wyrallah			1887	2,555 14 4	351 19 6
Swan Bay to New Italy			1890	1,247 14 9	303 18 2
South Grafton and Swan Creek Road to Dobie-street Punt			1894	46 0 0	46 0 0
Southgate to Flood Reserve			,,	81 6 8	81 6 8
Shark's Creek to Hinchy's			1893	86 4 0	45 4 0
Shark Creek Road			1894	34 0 4	34 0 4
South Grafton to Ulmarra	Maintenance, repair, and construction.	Consolidated Revenue.	1886	8,953 9 0	124 19 0
South Grafton to Perrett's			1890	10,015 2 0	2,035 5 4
South Grafton to Rushforth			1888	580 10 1	57 13 4
South Grafton to Moonee			1892	2,924 4 6	1,787 3 0
South Grafton District Roads			1893	383 14 0	154 16 3
South Gullen towards Hume Creek			1894	29 19 6	29 19 6
Stoney Pinch up Stockyard Creek			,,	26 19 5	26 19 5
Stoney Pinch to Smith's Creek			1890	209 11 4	46 18 0
Salisbury Plains to Kentucky			1887	701 4 3	61 9 0
Sandy Flat to Eastern Range			1894	95 13 1	95 13 1
Stoney Creek to Morton's Creek			1892	115 18 9	49 1 9
Stroud District Roads			1894	1,986 10 10	1,986 10 10
Stroud to Kramback			1892	4,396 12 2	117 11 10
Stroud Road to New Wharf			1891	237 0 11	75 0 8
Sandy Creek to Combogolong			1894	35 5 6	35 5 6
Stockton to Saltash			,,	1,060 7 8	1,060 7 8
Seven Oaks' Embankment, Road at			1893	266 5 0	49 7 6
Seven Oaks to Trial Bay			1882	12,810 19 4	885 9 6
Saltash to Nelson's Bay			1894	99 8 0	99 8 0
Sandy Creek to Mount Vincent			1892	466 13 1	166 10 9
Sandy Hollow to Weddin Creek			1894	25 12 0	25 12 0
Sandy Creek to Millfield			1893	86 4 0	52 14 0
Sandy Creek Road to Buddin's C.P.			1894	106 9 0	106 9 0
Stewart's Brook to Belltrees			1889	2,181 16 4	215 19 5
Stewart's Brook to Noonan Brook			1894	21 3 0	21 3 0
Sylvania to Loftus Junction			,,	150 0 0	150 0 0
Scone, Merriwa Road, up Middle Creek			1893	247 6 9	231 8 9
Scone, *via* Dartbrook and Kayuga, to Muswellbrook			1894	238 15 5	238 15 5
Scone to Denison Diggings			1879	6,710 7 10	946 17 4
Scone to Bunnan			1877	7,157 11 6	545 1 4
Stockton Point to Horseshoe Bend			1894	10 0 0	10 0 0
Scotch Creek Road			1891	504 14 5	63 12 1
Sternback to Wiseman's Ferry			1894	10 0 0	10 0 0
Singleton, *via* Warkworth, to Jerry's Plains			1890	1,429 15 9	439 1 10
Singleton to Cooper's Flat			1884	4,925 1 5	519 11 9
Sandy Hill to Boorook			1888	551 6 8	92 6 8
Sherbrook School Road			1894	15 0 0	15 0 0
Sherbrook to Wabro Creek and Willi Willi			,,	141 15 6	141 15 6
Somerton to Manilla			1891	297 7 0	84 3 8
Stonehenge to Graham's Valley			1894	63 0 4	63 0 4
Scrub Road to Scrub Valley			,,	74 0 0	74 0 0
Synott's to Funnell's (Jiggi Creek Road)			1888	2,485 6 4	353 2 1
Sedgefield, *via* Glendon Bridge, to Gresford Road			1894	9 16 0	9 16 0
Sharp's, up East Bank Orara River			,,	1 15 0	1 15 0
Stoney Creek to Picton Post Office			,,	14 16 10	14 16 10
Sutton Forest to Main South Road			1887	676 3 11	139 13 8
Sutton Forest to Bundanoon			1882	2,183 9 8	199 12 3

Return of Public Works—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Sergeant's Point to Clyde Road			1887	724 17 11	123 11 8
Southern Road, Main			1857	686,978 18 4	10,852 8 0
Sutton Forest Road to Stone Quarry Creek			1894	300 0 0	300 0 0
South Creek to Luddenham			,,	199 6 2	199 6 2
Stanley Road, East Carlingford			,,	20 0 0	20 0 0
Sergeant's Point, *via* Charley's Forest, to Wog Wog			,,	144 12 6	144 12 6
South Bank North Arm Junction of Road Murwillumbah to Blue Knob and Kynumboon to Midgengum			,,	177 2 3	177 2 3
Show Ground Road, Castle Hill to Cemetery			,,	80 0 0	80 0 0
Sangar and Mary-street, Corowa			,,	632 16 8	632 16 8
Seven Hills Station to Windsor Road			,,	193 17 1	193 17 1
Seven Hills Road to Vardy's			,,	10 0 0	10 0 0
Sackville Road to East Portland			1883	967 1 1	52 0 4
St. Albans to Marlow Creek			1894	25 0 0	25 0 0
St. Albans to Sheen's on Wright's Creek			,,	10 0 0	10 0 0
Surging Bridge to Millar's Creek			,,	50 0 0	50 0 0
Sofala to Rylstone			1878	8,368 10 4	333 9 2
Sofala to Monkey Hill			1873	2,224 2 1	179 18 11
Spring Terrace to Long Swamp			1887	1,422 12 6	108 13 1
Spring Hill to Long Swamp			,,	1,123 8 8	340 17 4
Spring Hill Station to Orange and Cadia Road			1879	2,318 15 8	99 19 6
Spring Hill to Lucknow			1894	148 0 1	148 0 1
Spring Terrace to Forest Reefs			1883	1,526 1 2	117 16 6
Spring Hill to Millthorpe and Blayney			1894	29 11 8	29 11 8
Spring Railway Station to Newera Bridge			1880	1,076 7 5	137 3 9
Spit Ferry, Middle Harbour			1894	71 15 1	71 15 1
Sutherland Road, Carlingford			,,	99 16 4	99 16 4
South Head Roads			1888	29,352 10 0	4,072 10 0
Sydney to Bank's Meadow			1894	112 5 8	112 5 8
Sydney, *via* Dam at Cook's River, to Half-way House			1876	83,853 0 9	3,268 9 10
Stanmore Road from Enmore Road to Canterbury Trust Road			1894	450 0 0	450 0 0
Stoney Range, Manly Cove to Pittwater			,,	409 5 1	409 5 1
Toohey's Mill to Hogan's			1892	494 6 0	269 19 1
Trial Bay, towards Smoky Cape			1893	27 18 3	19 19 3
Two-mile Creek to Newrybar			1889	202 11 10	49 13 8
Tumbulgum to Tweed Heads			1894	161 2 8	161 2 8
Tumbulgum, *via* Bilambil, to Border			1889	2,007 16 11	258 16 8
Tweed River District Roads			1892	2,348 7 1	1,263 5 3
Teleghorry to Masters			1893	82 19 0	82 8 6
Tabulam to Myall Creek			1892	2,051 2 1	761 15 9
Tharwa Bay Road			1894	657 0 0	657 0 0
Thorburn to English's	Maintenance, repair, and construction.	Consolidated Revenue.	1892	221 9 8	101 19 0
Thorburn's to Kelly's			1891	290 14 3	76 1 6
Tucki to Munro's Wharf			1894	73 15 10	73 15 10
Tucki to Rous			1891	614 8 3	175 2 0
Tuckombil to Rous			1894	79 19 5	79 19 5
Tintenbar to Brooklet			1889	1,622 1 5	155 6 9
Tintenbar to Alstonville			1883	4,538 7 2	269 18 2
Tintenbar to Toohey's Mill			1884	2,146 5 5	105 2 10
Tenterfield to Scrub, *via* Steinbrook			1888	926 18 5	177 7 1
Tenterfield to Scrub			1885	1,502 2 0	184 10 6
Tenterfield District Roads			1893	365 4 3	30 0 0
Tenterfield to Mingoola			1894	695 12 7	695 12 7
Tenterfield to Wallangra			1888	1,817 2 8	194 8 9
Tenterfield to Bonshaw			1878	10,644 10 0	9 1 3
Tent Hill to Table-land			1888	1,426 10 1	204 13 5
Tarcutta to Swamp Road			1894	13 18 6	13 18 6
Tulbumurra to Llangothlin Railway Station			1894	18 0 0	18 0 0
Tingha, *via* Stannifer's and Elsinore, to main road, Glen Innes to Inverell			1888	2,300 18 1	455 9 9
Tocal to Patterson			1894	50 0 0	50 0 0
Tinonee Road to Failford			1894	166 11 0	166 11 0
Tinonee to Farquhar Inlet			1883	1,515 14 4	148 1 0
Tinonee to Wingham Ferry			1876	2,729 7 4	167 10 11
Tinonee to Killawarra			1892	302 14 10	109 18 5
Taree District Roads			1893	1,059 1 2	942 3 11
Taree to North Forster			1883	3,355 12 7	379 13 4
Taree to Wingham			1892	782 6 2	319 13 3
Trangie to Gin Gin			1894	84 0 0	84 0 0
Twelve-mile, Stroud Road, to Sawyer's Point			1892	459 6 4	124 7 3
Tomki Estate, road through			1894	0 15 0	0 15 0
Tamworth to Nundle			1878	22,423 19 9	1,129 2 6
Tamworth to the Forest			1883	545 12 9	44 6 8
Tamworth to Barraba			1891	10,574 16 11	2,866 1 6
Tamworth, *via* Moore Creek, to Attunga			1878	1,755 17 0	311 2 1
Tamworth to Somerton			1891	2,393 0 6	563 4 2
Teven to Ferry, south side			1894	80 10 0	80 10 0
Thone Creek Road			,,	24 11 8	24 11 8
Thone Creek, from New England Road to Kilmurry's Falls			,,	172 5 10	172 5 10
Tatham to Myrtle Creek			1891	300 12 10	98 2 10
Tatham to Knight's Farm			1894	60 7 6	60 7 6
Tallanganda Crossing up Jerrabut Gully			1894	27 0 0	27 0 0
Thirlmere to Bargo River			1892	276 13 9	99 18 9
Thirlmere to Picton Lakes			1894	50 2 6	50 2 6
Tomerong to Jervis Bay			1886	1,512 17 10	698 11 5
"Tait's Hotel" to Lumsden's Corner			1888	998 1 10	162 15 0
Towrang, *via* Lockyersleigh, to Paddy's River			1892	251 2 0	98 2 6

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Towrang, *via* Greenwich Park, to Long Reach			1892	2,518 8 7	189 13 10
Taralga to Rockwell			1881	1,825 17 0	422 19 7
Taralga to Paling Yards			1894	133 6 3	133 6 3
Taralga, *via* Curraweela, to Bumbaroo			1888	1,328 1 0	209 0 10
Tyringham Post-office to Cockatoo Creek			1894	88 0 0	88 0 0
Taemas Bridge to Brindabella			1891	1,611 17 2	494 3 0
Taraga to Oalen Ford			1894	76 10 0	76 10 0
Tarago to Braidwood			1866	86,178 8 8	1,633 6 6
Tarago and Braidwood Road, at Hallett's, to Larbert			1894	60 4 5	60 4 5
Termeil Post-office to Milton			1891	926 13 5	199 18 8
Tarago to Windellima			1894	49 12 6	49 12 6
Tuross River Ferry Approach			1894	52 0 0	52 0 0
Towamba to New Buildings			1894	1,625 2 7	136 0 8
Towamba to Bondi			1887	1,826 14 5	170 5 6
Tilba Tilba to Mount Dromedary			1894	40 0 0	40 0 0
Tharwa to Tidbinbilly			1890	317 18 5	62 14 9
Thirteen-mile Post on Bombala and Delegate Road to the Border			1887	726 1 7	90 0 0
Tumut, *via* the Plains, to Punt Bridge			1891	702 15 1	195 13 2
Tumut, *via* Piper's, up Bembowlie Creek			1894	19 12 0	19 12 0
Tumut to Kiandra			1873	11,870 0 1	1,380 19 2
Tumut, *via* Brungle, to Gundagai			1870	4,756 2 5	883 17 5
Tumut to Adelong			1868	13,771 2 1	426 12 11
Tumut to Tomorroma			1891	625 10 1	190 19 3
Tumut to Lac Ma Lac			1871	2,614 16 9	149 11 10
Temora to Wyalong			1887	3,364 4 2	953 8 4
Temora to Junee Station			1888	2,060 1 0	366 1 4
Temora to Mandamar			1894	183 6 3	183 6 3
Tumbarumba to Courabyra			1893	248 12 11	231 8 0
Tumbarumba, *via* Tooma, to Welaregang			1878	17,090 15 3	506 8 3
Tumbarumba to Paddy's River Waterhole			1894	45 13 3	45 13 3
Tumbarumba to Bago			1890	1,614 18 11	435 16 4
Tumbarumba to Upper Burra			1894	56 1 0	56 1 0
Tumbarumba to Jingellic			1882	13,601 14 5	572 10 5
Tumbarumba to Kiandra			1894	61 12 0	61 12 0
Tumbarumba to Little Billabong			1876	22,699 5 7	806 11 4
Tumbarumba to Yarrangobilly Caves			1893	137 9 9	133 1 0
Tumbarumba Streets, opposite Lock-up			1894	4 18 8	4 18 8
Tocumwal to Berrigan			1889	796 8 2	145 0 0
Tarranganda School to Murray's Falls			1894	38 18 6	38 18 6
Tomalong to Delegate			1894	116 0 0	116 0 0
Tuena Road to Sherwood			1893	130 3 2	109 1 7
Toolejooa Road	Maintenance, repair, and construction.	Consolidated Revenue.	1894	75 7 0	75 7 0
Toongabbee Creek, Windsor Road, to Kellyville			1894	10 0 0	10 0 0
Tuena Road			1894	86 1 1	86 1 1
Twelve-Mile Post to Harold's Cross			1894	49 0 4	49 0 4
Toongabbee Road			1894	60 0 6	60 0 6
Tarana to Oberon			1888	2,891 17 4	673 1 2
Tallywalka Embankment			1892	1,159 6 11	1,138 14 5
Tallawang Road to "Goodiman Inn"			1893	210 5 10	95 2 6
Thompson's Creek to Portland			1894	86 10 10	86 10 10
Thompson's Creek to Dairy Arm			1894	10 0 0	10 0 0
Tarrion to Brewarrina			1894	60 0 0	60 0 0
Ulmarra to Yamba			1893	1,979 12 3	1,473 19 9
Ulmarra to Corindi			1887	1,222 16 9	131 12 10
Ulmarra Washaway			1894	40 0 0	40 0 0
Uralla, *via* Bundarra, to Inverell			1879	20,426 8 9	815 4 0
Uralla to Walcha			1877	4,767 2 11	141 0 10
Uralla to Nilon's			1894	58 7 0	58 7 0
Uralla, *via* Balala, to Kingstown			1881	3,210 13 9	212,16 0
Upper Mangrove Creek, down Right Bank, Hawkesbury River			1894	37 0 0	37 0 0
Upper Dural to Cattai Creek			1894	20 0 0	20 0 0
"Union Inn," Rutherford, to Melville Ford			1885	721 19 10	76 2 6
Upper Orara Roads and Bridges			1894	130 19 0	130 19 0
Underbank to Upper Williams			1893	170 14 0	82 7 0
Uralla, *via* Gostwyck, to Rockwood			1894	126 15 4	126 15 4
Union Church to Southgate Wharf			1889	2,236 12 5	135 12 6
Upper South Arm Road to C. Moody's Selection			1894	8 11 0	8 11 0
Umbango, *via* Oberne, to Tarcutta			1893	594 4 4	180 7 8
Urana Streets			1894	100 0 0	1 0 0
Uriarra Ferry to Webb's			1894	21 12 10	21 12 10
Ulundry to Obley			1894	27 6 0	27 6 0
Umeralla Railway Station to Cowra Reefs			,,	24 17 0	24 17 0
Upper Road to Eastwood			1892	751 0 0	226 0 0
Urana to Boree Creek			1894	13 1 4	13 1 4
Urana Road to Pleasant Hills			,,	69 11 0	69 11 0
Upper Turon Road between Hughes' and Storman's			,,	200 0 0	200 0 0
Uralba to Dillon's			,,	6 0 0	6 0 0
Victoria Road			1893	499 18 0	199 18 0
Violet Dale up Dumaresq Creek			1894	94 12 0	94 12 0
Wallaby Rocks Borings			,,	47 16 11	47 16 11
Woollomin up Duncan's Creek to Crawley's			,,	29 19 6	29 19 6
Wool-shed Creek Bridge to Sutton's			,,	37 0 0	37 0 0
West Side Railway Line to Cobb's Crossing			,,	50 0 0	50 0 0
Williams' Crossing, Bland Creek			,,	28 10 0	28 10 0
Wallbrook to Grabine			,,	11 19 0	11 19 0
Woodfordleigh to Tynedale			1885	675 3 7	55 12 7

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
ROADS AND BRIDGES—*continued.*				£ s. d.	£ s. d.
Wilson's to Sneath's			1892	95 4 8	48 5 4
Wardell's Orchard, *via* White Falls, to Main North Road			1894	7 10 0	7 10 0
Wyrallah to Webber's			1893	82 4 8	37 14 8
Wyrallah to Rous			1888	8,323 16 11	208 9 5
Wee Talaba, *via* Angledool, to Goodooga			1893	153 16 2	48 6 8
Wardell, Rous Road, to Alstonville			1891	719 14 10	96 15 10
Wardell to Emigrant Bridge			1890	967 14 11	210 7 11
Wardell to Burns' Point Ferry			,,	1,015 5 6	212 1 1
Wardell to the Beach			1891	380 5 3	53 2 6
Wall's Lane, Jones' Island			1894	18 2 6	18 2 6
Woodburn to Bungawalbyn Ferry			1892	881 8 11	359 6 9
Woodburn to Wardell			1881	8,136 5 5	781 19 10
Woodburn District Roads			1893	705 4 8	167 4 7
Woodburn to Tucki			1891	2,005 0 7	661 0 8
Woodburn to Halfway House			1880	15,042 11 8	614 15 11
Woodburn Crossing to Bexhill Road			1894	29 9 6	29 9 6
Woodburn to Dungarubba			1891	955 4 7	398 2 5
Woodburn to the Gap (Iluka Road)			1893	147 3 9	100 6 7
Waterview to Ramornie			1891	169 5 3	43 15 6
West Branch, Orara River, to Buchanan's			,,	552 18 0	20 4 0
Warialda to Bogamildi			1894	144 8 10	144 8 10
Warialda to Yetman			1876	8,937 11 2	569 10 2
Warialda to Gunyerwaraldi			1879	4,813 17 10	340 7 5
Warialda to Ezzie's			1885	10,784 17 2	175 12 0
Warialda, *via* Gragin, to Reedy Creek			1886	823 14 10	118 7 7
Warialda to Moree			1876	14,206 9 5	321 5 4
Wilson's Downfall to Rivertree			1887	4,407 12 1	338 9 1
Wellingrove to Strathbogie and Bonshaw			1889	1,537 14 6	263 15 8
Wandsworth to "Old Ben Lomond Inn"			1888	997 13 8	188 11 3
Wallon Creek to Goondiwindi			1892	462 10 9	6 11 5
Wallangra to Goondiwindi			1889	2,292 10 2	463 15 4
Wallangra to Strathbogie			1894	114 12 0	114 12 0
Walgett to Combogolong			1892	429 0 6	59 2 6
Walgett Road, at Wee Waa, to Pian Creek			1894	21 15 0	21 15 0
Walgett, *via* Goodoog a, to Brenda			1893	888 9 4	715 0 2
Walgett to Coonamble			1894	371 11 0	371 11 0
Walgett to Mogil Mogil			1889	1,305 0 0	258 3 9
Walgett towards Brewarrina			1894	20 1 3	20 1 3
Walcha to Great Northern Railway			1881	8,024 3 2	157 17 2
Walcha Road to Walcha			1894	366 0 7	366 0 7
Walcha to Port Macquarie			1872	46,925 2 10	2,052 5 6
Walcha to Emu Creek	Maintenance, repair, and construction.	Consolidated Revenue.	1893	80 0 0	30 0 0
Walcha Railway Station to Glen Morrison			1881	3,014 14 0	252 18 0
Walcha to Eulo, *via* Glen Morrison			1892	640 3 2	215 5 4
Walcha to Aberbaldie			,,	230 15 0	111 4 0
Wingham, up Cedar Party Creek			1882	2,200 11 3	227 10 4
Wingham and Nowendoc Road to Karaak Flat			1884	613 0 6	44 3 8
Wingham, *via* Brimbin, to Lansdown			1885	700 13 4	37 12 4
Wingham to Nowendoc			1883	15,536 2 3	1,412 9 2
Wingham, *via* Ashlea, to Kelvin Grove			1876	3,292 11 7	245 0 1
Wilson's River, *via* Bar Scrub, to Walcha			1877	3,041 4 7	159 7 7
Wauchope to Beechwood			1890	236 4 6	80 0 0
Wauchope to Heron's Creek			1892	1,078 11 6	191 5 0
Warren's Lane			1891	201 11 3	36 17 6
Wyee Platform to Old Maitland Road			1890	726 3 0	312 7 9
Wyee Station, *via* Catherine Hill Bay, to Swansea			1894	356 6 2	356 6 2
Woodville Road to Fairfield Station				10 0 0	10 0 0
Woodville Washaways				23 14 10	23 14 10
Wyong, *via* Tuggerah Lakes Platform, to Water Reserve No. 76			1892	654 13 5	190 3 8
Wyong to Yarramalong			1890	2,352 0 7	1,090 4 4
Wyong to Morrissett			1892	1,450 14 7	758 7 6
Woburn to Brogheda			1894	29 8 0	29 8 0
Warkworth to Putty			1879	9,301 15 3	961 14 0
Warkworth Road to Bulga Bridge			1894	160 0 0	160 0 0
Wollombi to Cessnock			1893	1,624 12 9	1,150 11 7
Wollombi to Broke			1892	747 6 9	443 12 5
Woy Woy to Blackwall			1894	7 0 0	0 7 0
Wollombi District Roads			1893	557 19 0	182 2 6
Wollombi Road to Ellalong			1895	0 10 6	0 10 6
Wollombi to Congewai			1890	1,161 15 8	350 14 4
Wollombi to Yango Creek			1892	484 6 4	160 5 2
Wiseman's Ferry Road, through Foster's, to Galston			1894	50 0 0	50 0 0
Wiseman's Ferry Road, at Middle Dural, to Kenthurst			,,	10 0 0	10 0 0
Wickham Roads			,,	264 0 0	264 0 0
Wallsend to Gosford Road, at Cooranbong			1878	10,783 16 2	554 19 3
Wiseman's Ferry Road, at Middle Dural, to Galston			1894	15 0 0	15 0 0
Wallsend to Sandgate Cemetery			1884	155 19 7	117 5 3
Wiseman's Ferry to North Mangrove Creek			1894	15 0 0	15 0 0
Wallsend to Lake Macquarie			1884	440 18 10	243 2 9
West Wallsend Road			1893	156 18 0	7 10 0
West Kempsey District Roads			1894	584 10 4	584 10 4
West Maitland, *via* Louth Park, to East Maitland			,,	100 0 0	100 0 0
West Maitland District Roads			1893	459 17 9	59 17 9
West Maitland to Dunmore			1883	3,590 12 7	726 7 4
West Wallsend, *via* Glenarvon, to Dunmore and Patterson Road			1894	165 0 0	165 0 0
West Maitland to Cessnock			1892	1,653 2 11	653 11 11
Waratah to Maitland			1882	13,115 9 11	825 3 9

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When commenced.	If Unfinished, amount of Expenditure to 30 June, 1895. £ s. d.	Amount expended from 1 January, 1894, to 30 June, 1895. £ s. d.
ROADS AND BRIDGES—*continued.*					
Willow Tree to Gunnedah			1868	37,040 12 2	10 0 0
Willow Tree to Quirindi			1894	174 6 5	174 6 5
Wallabadah to Quirindi			1878	5,013 13 5	398 9 8
Wallabadah to Nundle and Swamp Oak			1882	5,971 0 7	244 1 0
Wallabadah Creek to Gosford Public School			1894	40 0 0	40 0 0
Woolamon to Cadell			1892	99 8 10	45 12 0
Werris Creek Gap to Railway Station			,,	69 17 1	20 0 0
Werris Creek, *via* Currabubula, to Tamworth			1880	8,079 10 3	240 18 4
Waterfall to Otford Hill			1890	1,026 1 10	164 2 11
Wheeo towards Crookwell			1884	4,250 9 11	229 3 4
Wheeo to Binda			1877	2,369 0 9	248 10 6
Wheeo Post Office to Gunning			1888	1,271 11 4	200 18 9
Wallen's Gap, *via* Ballalaba, to Oranmer			1875	1,739 5 5	113 4 8
Waroo, *via* Boambolo, to Cavan Gap			1891	455 0 4	176 9 7
Wyndham to Burrogate			1892	138 12 0	41 3 0
Wolumla, *via* Lithgow Flat, to Candelo and Wyndham Road			1879	1,489 16 9	115 6 6
Wolumla Junction to Tantawanglo			1872	47,643 19 5	183 2 8
Wallaga Lake to Bermagui			1887	263 7 0	30 6 0
Windellima to Spa and Jessop Mine			1894	95 17 0	95 17 0
Wendowie, up east bank Gilmore Creek			1891	458 9 4	168 5 8
Windellima to Mayfield			1894	72 13 3	72 13 3
Windowie School, up west bank Gilmore Creek			,,	115 0 8	115 0 8
Wagga Wagga to Gillenbah			1892	1,527 18 9	654 14 1
Wagga Wagga to Gregadoo			1891	676 11 1	227 12 0
Wagga Wagga to Coolamon			1892	564 2 5	291 18 6
Wagga Wagga to Wantabadgery			,,	601 3 7	282 4 3
Wagga Wagga to Cookardina			,,	754 4 2	338 16 8
Wagga Wagga, *via* Sandy Creek, to Rock Station			1893	201 15 2	200 11 2
Wagga Wagga to Kyamba			1881	11,439 7 5	1,238 16 11
Wagga Wagga to Narrandera			1864	15,915 0 6	289 15 6
Wagga Wagga to Junee			1892	272 5 2	140 12 2
Wagga Wagga-Narrandera Road, to Groog Grong Railway Station			1894	69 6 9	69 6 9
Wagga Wagga-Narrandera Road, to Experimental Farms			,,	82 3 0	82 3 0
Walla Walla to Jindera			1888	1,235 3 4	229 9 4
Walla Walla Railway Station—Road to			1893	86 11 0	72 2 0
Walla Walla to Gerogery			1876	6,540 16 0	357 0 7
Widdin to Walla			1894	25 0 0	25 0 0
Wedderburn Road			,,	26 10 3	26 10 3
Whitton Station to Cudgellico			1892	5,146 10 7	2,374 4 8
Walbundry to Culcairn			1882	3,156 17 2	344 5 4
Wombat, *via* Kingsvale, to Young Municipal Boundary			1894	53 5 0	53 5 0
Wombat to Wallendbeen	Maintenance, repair, and construction.	Consolidated Revenue.	,,	33 4 0	33 4 0
Wallendbeen to Stockinbingal			,,	37 1 6	37 1 6
Wellsley's, *via* Cragie, to Border			,,	44 17 6	44 17 6
Welaregang to Tintaldra			,,	54 10 5	54 10 5
Wentworth to South Australian Border			1885	1,363 13 6	102 10 4
Wimbledon towards Thorney			1894	69 19 7	69 19 7
Wimbledon towards Blayney			,,	9 19 0	9 19 0
West Portland to Comleroy Road			1888	629 8 2	128 6 10
Wilton Post Office to Maldon-street			1894	50 0 0	50 0 0
Windsor Road, at Parsonage, to Castle Hill			,,	10 0 0	10 0 0
Windsor Road to Sneath's			,,	15 0 0	15 0 0
Windsor, *via* Sackville, to Wiseman's Ferry			1883	9,424 9 1	652 13 10
Windsor Road, *via* Show Ground, to Castle Hill			1894	25 0 0	25 0 0
Wiseman's Ferry to Singleton's Mill			1889	520 6 5	76 10 0
Windsor Road to Brook's Ferry			1894	10 0 0	10 0 0
Windeyer to Queen's Pinch			1892	520 16 5	207 4 9
Wallerawang to Mudgee			1857	169,438 18 10	1,262 8 10
Wallerawang to Rydal			1893	235 0 1	185 19 1
Walli to Woodstock			1888	1,056 0 8	266 8 10
Woodstock to Canowindra			1891	1,317 3 1	363 2 7
Woodstock to Mount M'Donald			1883	5,255 14 4	822 5 9
Warren to Quambone			1893	277 0 1	239 16 9
Wall's Junction to Botobolar			1884	1,411 14 5	101 15 0
Wellington to Ulundry			1894	223 15 11	223 15 11
Wellington to Woolamon			1890	1,742 0 4	388 9 3
Wellington to Cobberah			1882	4,787 16 9	489 3 9
Wellington to Mumbil and Burrendong Road			1880	5,592 13 9	170 11 5
Wellington to Caves			1894	2 10 0	2 10 0
Wilpingong to Mudgee and Cassilis			,,	21 1 5	21 1 5
Wilcannia to Hungerford			1892	608 16 4	323 7 5
Wilcannia to Ivanhoe			,,	1,358 11 1	505 6 0
Wilcannia to Wentworth			1888	2,364 6 11	251 11 8
Wilcannia to Wompah			1892	1,582 10 2	680 2 8
Wilcannia to Cockburn			1890	2,830 9 4	560 6 10
Western Road—Main			1857	600,152 18 4	15,702 10 4
Wellington to Ponto			1891	884 17 9	333 13 2
White Channel Creek, Rozelle Bay			1894	301 16 11	301 16 11
Woolshed Creek Bridge to Sutton's			,,	80 2 8	80 2 8
Webb's Creek to Wilson's			,,	10 0 0	10 0 0
Wahronga Railway Station Approach			,,	234 8 2	234 8 2
White Bay Hotel to Iron Cove			,,	646 9 8	646 9 8
Yarrowford to Ranger's Valley			1881	2,255 14 2	85 5 4
Young Wallsend to West Wallsend			1892	387 3 4	94 19 4
Young Wallsend to Minmi			1890	1,556 18 5	413 0 9

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repairs.	Fund from which the Expense is defrayed.	When commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
ROADS AND BRIDGES—*continued.*					
Yarraman to Black Creek			1891	59 2 4	3 3 0
Yarrangobilly Road			1894	33 16 9	35 16 9
Yarrow Creek to Glen Innes			,,	5 4 0	5 4 0
Yass to Fairfield Bridge			1875	5,794 1 3	257 19 4
Yass, *via* Jerriwa, to Dalton			1894	227 18 7	227 18 7
Yass to Woolgarlo			1875	3,975 11 11	116 13 0
Yass to Dalton and Burrowa Road			1890	361 0 4	125 18 9
Yass to Black Range			1885	347 17 10	39 19 11
Yass, *via* Wee Jasper, to Rye Park			1894	50 0 6	50 0 6
Yass, *via* Wee Jasper, to Tumut			1892	875 13 7	727 19 7
Yass to near Gundaroo			1882	9,164 4 11	260 0 2
Young to Koorawatha			1892	123 13 11	136 5 8
Young, *via* Moppity, to Burrowa and Cunningrah Road			1880	1,448 16 8	285 11 6
Young to Murrumburrah			1889	1,943 12 0	149 9 3
Young to Jerrybang and Bumbaldry			1892	227 6 1	188 0 7
Young, *via* Morangarell, to Marsden			1887	5,482 12 9	833 10 0
Young to Temora			1883	8,362 11 6	551 16 1
Young to Grenfell			1888	6,599 8 4	1,048 10 10
Young District Roads			1894	50 0 0	50 0 0
Yambla Station to Jingellic			1892	2,874 18 5	1,187 10 1
Yerong Station to Urangeline			1888	1,980 19 5	790 5 10
Yalbraith to Rockwell			1894	8 4 0	8 4 0
Yerong Creek to Mangoplah			,,	24 0 0	24 0 0
Yathong Siding to Narromine			,,	72 0 0	72 0 0
Yarramundi, *via* Enfield, to Wilberforce and Pitt Town Road			1883	1,861 8 6	306 17 6
SUNDRIES.					
Advertising Account			1894	1,988 18 4	1,988 18 4
Broken Hill Water Supply			,,	495 1 3	495 1 3
Billagoe Tank			,,	10 15 0	10 15 0
Cobar Water Supply			,,	359 19 7	359 19 7
Compensation to Mrs. Weaver			,,	200 0 0	100 0 0
Contingencies Account			,,	1,025 12 1	1,025 12 1
Darling Harbour proposed Resumption			,,	989 0 5	989 0 5
Erection of Store, Mulwala Store			,,	2 15 0	2 15 0
Expenses, Punts			,,	19,279 6 2	19,279 6 2
Enclosing portion of Albury Office Balcony as a Store			,,	12 0 0	12 0 0
Flood-gate, Hinton			,,	106 2 6	106 2 6
Gratuity to Widow of late D. White			,,	50 0 0	50 0 0
Gratuity to Thomas Seers			,,	109 4 0	109 4 0
Incidental Expenses			,,	25,413 1 11	25,413 1 11
Iron Cove Store	Maintenance, repair, and construction.	Consolidated Revenue.	,,	28 2 11	28 2 11
Lighting Belmore Bridge			,,	60 0 0	60 0 0
Public Works Establishment, Roads, Bridges, and Sewerage (Professional)			,,	22,145 6 1	22,145 6 1
Testing Machine, "Little Giant"			1895	250 0 0	250 0 0
AMOUNT issued to TRUSTEES.					
As per Schedule D 4, Minor Roads under Trustees			1894	.....	30,034 10 0
AMOUNTS issued to Municipalities for Maintenance of MINOR ROADS within their Limits.					
Albury			,,	.....	51 16 2
Auburn			,,	.....	10 14 3
Braidwood			,,	.....	110 10 7
Burrowa			,,	.....	130 8 11
Balranald			,,	.....	25 12 9
Bombala			,,	.....	48 3 4
Bega			,,	.....	46 2 10
Bathurst			,,	.....	20 12 7
Blayney			,,	.....	59 1 0
Bourke			,,	.....	45 9 4
Bowral			,,	.....	40 14 11
Berry			,,	.....	37 13 7
Broken Hill			,,	.....	21 0 0
Ballina			,,	.....	135 8 9
Bingera			,,	.....	89 10 5
Cooma			,,	.....	231 9 10
Cudgegong			,,	.....	684 0 11
Cowra			,,	.....	52 9 6
Condobolin			,,	.....	166 12 11
Camden			,,	.....	99 15 6
Cabramatta and Canley Vale			,,	.....	113 16 9
Campbelltown			,,	.....	61 18 7
Coraki			,,	.....	84 7 7
Casino			,,	.....	342 1 1
Coonamble			,,	.....	26 7 2
Cudal			,,	.....	36 0 11
Deniliquin			,,	.....	111 6 9
Dubbo			,,	.....	16 18 9
Dungog			,,	.....	150 0 0
Gundagai			,,	.....	13 8 1
Granville			,,	.....	57 2 10
Gosford			,,	.....	55 12 1
Glen Innes			,,	.....	109 5 1
Goulburn			,,	.....	31 12 6

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When commenced.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.
MINOR ROADS—*continued.*					
Grenfell			1894	.....	18 3 0
Gulgong			,,	.....	298 15 5
Grafton			,,	.....	117 13 7
Greta			,,	.....	30 12 10
Hillston			,,	.....	17 9 6
Hill End			,,	.....	13 3 0
Hay			,,	.....	84 14 5
Inverell			,,	.....	471 18 8
Junee			,,	.....	30 0 0
Jerilderie			,,	.....	278 3 9
Kempsey			,,	.....	191 13 2
Liverpool			,,	.....	18 15 0
Lithgow			,,	.....	80 14 11
Lismore			,,	.....	507 5 0
Maitland, West			,,	.....	56 8 7
Maitland, East			,,	.....	100 13 11
Moss Vale			,,	.....	259 19 7
Mittagong			,,	.....	40 0 0
Morpeth			,,	.....	41 18 7
Moama			,,	.....	50 8 11
Molong			,,	.....	84 17 7
Moree			,,	.....	67 15 9
Muswellbrook			,,	.....	8 16 1
Maclean			,,	.....	77 8 8
Murwillumbah			,,	.....	47 6 9
Moruya			,,	.....	12 4 10
Nowra			,,	.....	117 2 7
Narrabri			,,	.....	34 16 3
New Lambton			,,	.....	71 8 7
Orange			,,	.....	30 0 0
Parkes			,,	.....	45 0 0
Plattsburg			,,	.....	12 10 0
Port Macquarie			,,	.....	100 15 4
Parramatta			,,	.....	19 6 11
Queanbeyan			,,	.....	44 13 3
Quirindi			,,	.....	56 2 11
Richmond			,,	.....	16 3 7
Raymond Terrace			,,	.....	39 0 11
Rookwood			,,	.....	76 15 8
St. Mary's			,,	.....	44 5 9
Scone			,,	.....	16 18 10
Singleton			,,	.....	11 10 9
Smithfield	Maintenance, repair, and construction.	Consolidated Revenue.	,,	.....	53 11 5
Tumut			,,	.....	59 17 8
Tamworth			,,	.....	113 17 11
Temora			,,	.....	104 16 6
Tenterfield			,,	.....	85 15 0
Ulmarra			,,	.....	422 10 0
Uralla			,,	.....	9 12 7
Ulladulla			,,	.....	83 6 8
Waratah			,,	.....	14 5 8
Wallsend			,,	.....	19 16 10
Windsor			,,	.....	15 18 4
Wagga Wagga			,,	.....	60 16 1
Wallendbeen			,,	.....	141 7 8
Wilcannia			,,	.....	17 5 11
Wingham			,,	.....	29 13 6
Walcha			,,	.....	167 2 8
Yass			,,	.....	127 8 0
PUNTS.					
Punts, Burn's			1894	42 16 0	42 16 0
,, Dobie-street Approaches			,,	27 14 6	27 14 6
,, Darlington			,,	268 2 3	268 2 3
,, Hunter River (Steam)			1892	1,763 2 8	9 15 6
,, Ulmarra, Clarence River			,,	689 19 6	122 6 9
,, Wyong Creek			1894	4 17 6	4 17 6
,, Wahgunyah			,,	10 0 0	10 0 0
CULVERTS.					
Culvert, Borenore			1894	11 18 0	11 18 0
,, Bullock Gully			,,	66 18 0	66 18 0
,, Emerald-street, Village of Emu			,,	11 18 0	11 18 0
,, Field of Mars			1893	20 5 3	7 17 3
,, Ford's Bridge Embankment			1894	23 0 0	23 0 0
,, German Creek			,,	143 3 9	143 3 9
,, Grafton District			1893	343 1 10	150 4 2
,, Grafton to Swan Creek			1894	49 16 6	49 16 6
,, Green's Creek, Holt's Flat			,,	7 1 0	7 1 0
,, Hamilton, Gully Creek			,,	13 6 9	13 6 9
,, Lord's Road, Botany			,,	1 14 10	1 14 10
,, Maclean's			,,	100 0 0	100 0 0
,, Myrtle Creek			,,	70 0 0	70 0 0
,, Newtown Road			,,	82 7 0	82 7 0
,, Roach's Creek			,,	80 0 0	80 0 0
,, Salmon's Drain			,,	18 5 0	18 5 0

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.	£ s. d.
CULVERTS—*continued.*						
Culvert, Sydney to Banks' Meadow	Maintenance, repair, and construction.	Consolidated Revenue.	1894	.....	10 16 9	10 16 9
„ Tarcutta Swamp			„	.....	75 6 10	75 6 10
„ Waratah to Maitland			„	.....	60 0 0	60 0 0
FOOTBRIDGES.						
Footbridge, Binalong			„	.....	95 16 0	95 16 0
„ Bullock Island			„	.....	158 18 5	158 18 5
„ Candelo			1893	.....	239 6 7	78 3 7
„ Little Plain River, at China Town			1894	.....	50 0 0	50 0 0
„ Sandy Creek			„	.....	10 0 0	10 0 0
„ Tuena			1893	.....	244 3 1	242 3 1
„ Yarrowitch River			1894	.....	4 16 2	4 16 2
CONSTRUCTION AND REPAIR OF BRIDGES.						
Albury			„	.....	.....	40 1 5
Armidale			„	.....	.....	88 6 7
Bega			„	.....	.....	161 3 8
Bathurst			„	.....	.....	295 7 10
Braidwood			„	.....	.....	255 8 9
Brewarrina			„	.....	.....	12 1 0
Bombala			„	.....	.....	83 12 3
Bourke			„	.....	.....	0 5 0
Ballina			„	.....	.....	2 11 3
Blayney			„	.....	.....	2 6 3
Campbelltown			„	.....	.....	68 9 8
Cooma			„	.....	.....	4 17 4
Cowra			„	.....	.....	138 3 0
Cootamundra			„	.....	.....	83 16 7
Coonabarabran			„	.....	.....	136 6 0
Coonamble			„	.....	.....	126 6 4
Dubbo			„	.....	.....	113 8 7
Forbes			„	.....	.....	299 1 8
Glen Innes			„	.....	.....	1 17 0
Goulburn			„	.....	.....	49 10 10
Gosford			„	.....	.....	4 5 7
Grafton			„	.....	.....	44 8 6
Hay			„	.....	.....	350 15 4
Inverell			„	.....	.....	81 14 7
Kempsey			„	.....	.....	724 12 11
Lismore			„	.....	.....	38 6 2
Lithgow			„	.....	.....	19 0 1
Moss Vale			„	.....	.....	134 19 4
Mudgee			„	.....	.....	112 3 2
Moree			„	.....	.....	80 0 6
Moruya			„	.....	.....	22 12 5
Maitland			„	.....	.....	498 0 0
Muswellbrook			„	.....	.....	12 14 1
Metropolitan			„	.....	.....	99 2 3
Maclean			„	.....	.....	148 14 4
Nowra			„	.....	.....	539 9 9
Narrabri			„	.....	.....	39 3 3
Newcastle			„	.....	.....	136 19 0
Orange			„	.....	.....	190 1 11
Parramatta			„	.....	.....	34 18 7
Port Macquarie			„	.....	.....	583 15 5
Quirindi			„	.....	.....	99 18 4
Queanbeyan			„	.....	.....	4 11 6
Richmond and Windsor			„	.....	.....	360 11 2
Stroud			„	.....	.....	42 7 11
Tumberumba			„	.....	.....	93 9 7
Taree			„	.....	.....	257 15 2
Tenterfield			„	.....	.....	127 9 1
Walgett			„	.....	.....	84 5 9
Wagga Wagga			„	.....	.....	74 1 3
Woodburn			„	.....	.....	29 6 6
Wollombi			„	.....	.....	32 5 2
Wilcannia			„	.....	.....	1 3 0
Yass			„	.....	.....	77 19 0
Young			„	.....	.....	34 7 9
Bridge, Barber's Creek, Moulamien to Koondrook			„	298 18 4	.....	298 18 4
„ Beardy River, Grafton to Inverell			1892	2,502 3 8	.....	520 1 10
„ Burrowa River (Acraman's)			„	2,371 17 9	.....	1,789 2 0
„ Box Creek			„	956 2 8	.....	508 12 8
„ Belmore—repairs			„	1,554 8 4	.....	210 11 9
„ Baker's Creek			1894	949 15 8	.....	949 15 8
„ Belabula, Canowindra			„	213 18 8	.....	213 18 8
„ Beecroft, Malton-street			„	80 5 0	.....	80 5 0
„ Bokhara, at Speechley's			„	978 3 0	.....	978 3 0
„ Back Creek, at Marsden's			„	442 8 0	.....	442 8 0
„ Cuffe's Creek, Bourke to Barringun			1893	839 1 8	.....	63 0 0
„ Coolac			„	2,547 18 9	.....	630 3 9
„ Cow Creek, Moulamein to Koondrook			1894	424 17 4	.....	424 17 4
„ Cooper's Creek, Clunes to Staggs			„	840 7 2	.....	840 7 2
„ Crookhaven Creek			„	400 0 0	.....	400 0 0
„ Cuttagee Lake, Bermagui			1892	1,089 5 8	.....	300 17 7
„ Cooma Creek, Sharp-street			1894	965 13 5	.....	965 13 5

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894 to 30 June, 1895.
BRIDGES—*continued.*				£ s. d.	£ s. d.	£ s. d.
Bridge, Campbell's River Lagoon, O'Connell Road	Maintenance, repair, and construction.	Consolidated Revenue.	1892	1,373 0 0	.....	419 1 8
,, Cattai Creek			1894	360 6 1	.....	360 6 1
,, Cook's River, at Tempe—repairs			,,	273 5 10	.....	273 5 10
,, Cottage Lagoon			,,	101 16 6	.....	101 16 6
,, Denman			1893	588 18 7	.....	336 18 11
,, Dry River, Bega to Bodalla			,,	1,329 9 3	.....	1,312 12 9
,, Darling River, North Bourke—repairs			1892	1,653 8 10	.....	64 19 6
,, Ewenmar Creek			1894	222 4 7	.....	222 4 7
,, Eagle's Creek, Moulamein to Koondrook			,,	214 14 4	.....	214 14 4
,, Fiveday Creek, Macleay			1892	2,562 15 4	.....	747 17 5
,, Farmer's Creek			1894	378 18 9	.....	378 18 9
,, Glennie's Creek			1893	2,230 19 3	.....	2,193 9 9
,, Glendon Brook			,,	756 12 9	.....	40 17 5
,, Gasworks, Parramatta			1894	522 8 2	.....	522 8 2
,, George's River, near Campbelltown			1893	775 17 0	.....	97 0 0
,, Gwydir Pioneer Crossing			1891	2,987 11 4	.....	564 17 2
,, Grattai Creek, Cudgegong to Hill End			1893	418 18 4	.....	123 13 9
,, Gundagai—repairs			1891	1,448 12 9	.....	634 6 2
,, Gil Gil			1894	1,632 7 3	.....	1,632 7 3
,, Hall's Creek—repairs			,,	58 5 10	.....	58 5 10
,, Hillas Creek ,,			,,	58 7 0	.....	58 7 0
,, Iron Cove Footway			1892	1,815 3 10	.....	134 6 1
,, Ironbark Creek—repairs			,,	1,526 18 0	.....	8 11 2
,, Kangaroo Valley			1893	207 16 5	.....	183 7 4
,, Katoomba, North's Crossing			1894	879 1 2	.....	879 1 2
,, Koorwatha or Bang Bang Creek			1893	578 9 6	.....	15 17 4
,, Kangaroo River—repairs			1892	244 3 8	.....	104 11 7
,, Kentucky Creek			1893	1,683 18 6	.....	6 17 4
,, Little Bumble Creek			,,	781 1 9	.....	492 7 9
,, Lachlan River, Euabalong			1891	2,383 14 5	.....	49 0 8
,, Leycester Creek			1893	1,343 16 4	.....	506 16 4
,, Lachlan River, Condobolin—repairs			1894	393 13 6	.....	393 13 6
,, Long Bridge, West Maitland			,,	4,115 2 6	.....	4,115 2 6
,, Macquarie River, near Trangie (Gin Gin)			1893	3,342 4 4	.....	855 0 6
,, Mann River—repairs			1894	198 7 6	.....	198 7 6
,, Murray River, Echuca			,,	153 3 5	.....	153 3 5
,, Murray River, Hawk's View			1892	2,067 2 10	.....	1,982 18 4
,, Marshall's Creek			1894	195 17 6	.....	195 17 6
,, M'Donald's River, No. 1			,,	464 13 3	.....	464 13 3
,, M'Donald's River, No. 2			,,	359 10 3	.....	359 10 3
,, Mulwaree Creek			,,	1,251 14 9	.....	1,251 14 9
,, Millfield—repairs			,,	200 12 6	.....	200 12 6
,, Mangrove Creek, Douglas Crossing			,,	216 9 6	.....	216 9 6
,, Mangrove Creek, Warren Waree Crossing			,,	214 11 6	.....	214 11 6
,, Mona-street, Auburn			,,	243 19 7	.....	243 19 7
,, Mulbring Creek			,,	351 15 4	.....	351 15 4
,, Merool Creek, Quondong			,,	306 9 11	.....	306 9 11
,, Meringlo Creek			,,	159 8 1	.....	159 8 1
,, North Borambil Washaway			1895	413 12 6	.....	413 12 6
,, Ournie Creek			1893	355 15 9	.....	12 0 0
,, Oeding, Corowa Bridge—approach			,,	709 4 2	.....	499 4 2
,, Pee Dee Creek			1894	547 16 8	.....	547 16 8
,, Quayle's Drain			1893	59 18 8	.....	37 4 0
,, Rylstone—repairs			1894	146 10 1	.....	146 10 1
,, Ranken's, Macquarie River—repairs			1893	351 19 5	.....	256 8 7
,, Rowe's Drain—approach			1894	109 18 6	.....	109 18 6
,, Schroeder's Creek			,,	364 0 9	.....	364 0 9
,, St. Albans—repairs			,,	454 12 0	.....	454 12 0
,, Sandy Creek, Doughboy Hill			1893	841 7 11	.....	401 15 2
,, South Creek, Main West Road			1894	143 8 9	.....	143 8 9
,, Stoney Creek, Bega to Bodalla			1893	1,254 2 8	.....	1,165 14 3
,, Shoalhaven River, Bombay Crossing			1894	1,495 4 9	.....	1,495 4 9
,, Shoalhaven River, at Balallaba			1892	4,652 17 9	.....	2,471 18 6
,, Serpentine Creek—repairs			1894	134 19 0	.....	134 19 0
,, Turos River, Bodalla			1892	6,300 17 10	.....	534 8 5
,, Tallyanka Creek			1893	1,212 17 1	.....	15 13 9
,, Ten Mile Creek, Germanton			,,	1,048 7 10	.....	489 7 10
,, Three or Five Mile, Tallywalka, and Yampoola			1894	145 8 0	.....	145 8 0
,, Tighe's Creek—repairs			1892	503 4 7	.....	356 4 7
,, Tumut River Junction			1893	3,802 4 6	.....	999 7 8
,, Undercliffe			1894	162 4 4	.....	162 4 4
,, Vale Creek, near Railway Station, Perth			1890	3,883 3 2	.....	92 0 1
,, Wollondilly River, at Lacey's			1892	1,281 7 10	.....	1,270 17 10
,, Waterloo Creek, Glen Innes to Inverell			,,	838 1 8	.....	451 6 2
,, Wollondilly, at Rossi's			1893	264 6 7	.....	9 2 9
,, Wallaga Lake			1892	3,214 5 2	.....	1,273 14 3
,, Wybong Creek			1893	2,620 16 4	.....	2,549 9 10
,, Wilson's Creek, Lismore to Brunswick			1892	1,335 17 5	.....	401 9 5
,, Wattle and Spring Creek, Camden to Werombi			1894	279 2 10	.....	279 2 10
,, Williams River, at Clarencetown			,,	360 16 1	.....	360 16 1
,, Williams River, Wollombi Creek			,,	197 12 0	.....	197 12 0
,, Williams River, at Dungog			,,	281 4 2	.....	281 4 2
,, Watt Creek, Cowra to Grenfell			,,	137 5 6	.....	137 5 6
,, Wellington			,,	720 6 11	.....	720 6 11
,, Woodville Road—repairs			,,	97 2 8	.....	97 2 8
,, Yarramanmun			,,	1,488 3 3	.....	1,488 3 3

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
BRIDGES—*continued.*				£ s. d.	£ s. d.	£ s. d.
Bridge, Allan's Creek (Compensation)	Maintenance, repair, and construction.	Consolidated Revenue.	1894	.....	199 0 1	199 0 1
„ Alleyn River			„	.....	7 6 4	7 6 4
„ Aberdeen			„	.....	28 0 0	28 0 0
„ Anvil Creek			„	.....	103 6 1	103 6 1
„ Beckett's Creek—repairs			„	.....	67 11 0	67 11 0
„ Bundaburra Creek—repairs			„	.....	2 17 7	2 17 7
„ Barwon, Brewarrina—repairs			1892	.....	588 9 0	325 1 10
„ Bulga			1894	.....	710 3 6	710 3 6
„ Balranald			1893	.....	687 19 6	370 3 9
„ Burrowa Creek, Burrowa			1894	.....	4 0 0	4 0 0
„ Brewarrina (around)			„	.....	22 18 0	22 18 0
„ Bell's Creek, Sofala, to Monkey Hill			„	.....	30 0 0	30 0 0
„ Byewash at Wallerai Creek			„	.....	14 11 8	14 11 8
„ Burnt Bridge Creek			„	.....	28 0 0	28 0 0
„ Billabong Creek—approach			„	.....	32 0 0	32 0 0
„ Berowra			„	.....	1 10 0	1 10 0
„ Blackman's Creek			„	.....	52 8 6	52 8 6
„ Bourke			„	.....	429 1 4	429 1 4
„ Burril Lake—repairs]			„	.....	174 10 2	174 10 2
„ Berrima, over Creek			„	.....	20 0 0	20 0 0
„ Boyd's Creek			„	.....	21 19 11	21 19 11
„ Beecroft, over Railway			„	.....	159 15 0	159 15 0
„ Billabong Creek			„	.....	34 16 4	34 16 4
„ Bawden			„	.....	358 4 11	358 4 11
„ Black Gully			„	.....	113 0 0	113 0 0
„ Bungulla Creek			„	.....	45 12 0	45 12 0
„ Boggabri			„	.....	33 6 8	33 6 8
„ Borambil Washaway			„	.....	7 14 0	7 14 0
„ Booral			„	.....	27 16 2	27 16 2
„ Brown's Creek, Paterson to Vacey			„	.....	29 18 2	29 18 2
„ Bega			„	.....	1 10 0	1 10 0
„ Buchanan—approach			„	.....	26 11 8	26 11 8
„ Breakfast Creek			„	.....	16 0 0	16 0 0
„ Beecroft, Hannah-street			„	.....	25 18 6	25 18 6
„ Copeland-street, Beecroft			„	.....	80 0 0	80 0 0
„ Camden Haven			„	.....	50 7 8	50 7 8
„ Cockfighter's Creek			„	.....	1 3 0	1 3 0
„ Cuttaburra Creek			„	.....	12 0 8	12 0 8
„ Cockburn			„	.....	6 0 7	6 0 7
„ Cowra			„	.....	1,237 8 8	1,237 8 8
„ Cedar Party Creek, Wingham			1892	.....	189 4 8	28 3 2
„ Coopernook			1894	.....	291 14 11	291 14 11
„ Corowa			„	.....	90 13 1	90 13 1
„ Croaker's Waterholes			„	.....	12 5 7	12 5 7
„ Chambigne Creek			„	.....	823 14 0	823 14 0
„ Denison, Bathurst			„	.....	1,336 4 8	1,336 4 8
„ Dunmore, Victoria and Pitnacree			1892	.....	663 14 5	359 13 0
„ Davorens			1894	.....	19 14 3	19 14 3
„ Dunmore			„	.....	520 14 1	520 14 1
„ Dignam's Creek			„	.....	52 17 4	52 17 4
„ Deep Creek			„	.....	178 15 9	178 15 9
„ Erina Creek—repairs			1892	.....	345 10 10	249 14 2
„ Emigrant Creek			1894	.....	223 3 1	223 3 1
„ Fitzroy, Goulburn			„	.....	111 6 1	111 6 1
„ Fitzgerald, Lachlan River, Forbes			„	.....	66 16 10	66 16 10
„ Fishery Creek			„	.....	45 10 2	45 10 2
„ Ford's Bridge			„	.....	137 10 6	137 10 6
„ Forster			„	.....	46 3 1	46 3 1
„ Gunnedah			„	.....	66 18 10	66 18 10
„ Gundaroo—repairs			„	.....	195 11 8	195 11 8
„ Governor's Hill, Goulburn			„	.....	52 8 1	52 8 1
„ Glebe Island—repairs			1893	.....	4,321 12 6	4,247 18 5
„ Greenhill's Lagoon			1894	.....	71 4 0	71 4 0
„ Gara			„	.....	2 3 6	2 3 6
„ Gilbert-street, Tumberumba			„	.....	18 1 0	18 1 0
„ Goonoo Goonoo Creek			1893	.....	29 19 3	13 12 2
„ Gowrie-street, Singleton			1894	.....	1,767 14 7	1,767 14 7
„ Gavinons Creek			„	.....	3 0 0	3 0 0
„ Hay—repairs			1891	.....	1,235 13 8	331 14 5
„ Hunter River, Morpeth—repairs			1893	.....	137 18 11	79 19 5
„ Hunter River, Muswellbrook			1894	.....	60 12 6	60 12 6
„ Hunter River, Singleton			„	.....	32 19 0	32 19 0
„ Hockey's Gully			„	.....	1 0 0	1 0 0
„ Jembaicumbene			„	.....	1,349 11 0	1,349 11 0
„ Jingair River, Pioneer Crossing			„	.....	25 0 0	25 0 0
„ Jilliby Jilliby			„	.....	61 5 8	61 5 8
„ Kempsey			„	.....	212 10 9	212 10 9
„ Koribakh			„	.....	9 4 5	9 4 5
„ Kundibakh Creek			„	.....	19 1 0	19 1 0
„ Lees Creek, Main South Coast Road			„	.....	75 0 0	75 0 0
„ Lochinvar			„	.....	45 7 3	45 7 3
„ Lackey-street, Moss Vale			„	.....	75 0 0	75 0 0
„ Lane Cove and Parramatta—repairs			1892	.....	4,547 6 5	1,117 6 8
„ Little River, Sergeant's Point			1893	.....	1,008 16 2	971 16 8
„ Lagoon, Forbes			„	.....	54 13 4	29 13 4
„ Little Jilliby Creek			1894	.....	59 19 6	59 19 6

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
BRIDGES—*continued.*				£ s. d.	£ s. d.	£ s. d.
Bridge, Luskintyre and Dalwood	Maintenance, repair, and construction.	Consolidated Revenue.	1894	.....	20 7 0	20 7 0
,, Mulwala—repairs			,,	.....	57 18 0	57 18 0
,, Molonglo River, Queanbeyan			1893	.....	68 9 6	2 15 0
,, Mount Hunter Creek			1894	.....	13 0 0	13 0 0
,, Moore's, Druitt Town			1892	.....	62 19 0	28 11 5
,, Marsh-street			1894	.....	11 4 10	11 4 10
,, Merowie Creek			,,	.....	8 5 11	8 5 11
,, Macleay River, Sherwood			,,	.....	50 2 9	50 2 9
,, Muscle Creek			,,	.....	11 16 0	11 16 0
,, Muswellbrook			,,	.....	141 8 9	141 8 9
,, Murray River, Jingellic			,,	.....	34 10 5	34 10 5
,, Narrabri Creek			,,	.....	275 3 1	275 3 1
,, North Creek			,,	.....	8 1 10	8 1 10
,, Nundle Peel River			,,	.....	0 4 0	0 4 0
,, Nepean—repairs			1892	.....	32 10 4	3 18 9
,, Nugent's, Kangaroo Valley to Nowra			1894	.....	7 13 10	7 13 10
,, Namoi River, Walgett—repairs			1892	.....	331 16 10	3 16 1
,, Nattai Creek			1894	.....	59 15 3	59 15 3
,, O'Connell and Mona Streets			,,	.....	83 8 7	83 8 7
,, Orara River, Jeergarrow			,,	.....	69 0 0	69 0 0
,, O. B. X. Creek, at 17-mile			1893	.....	199 17 2	198 7 2
,, Orphan School Creek, Canley Vale			1894	.....	50 0 0	50 0 0
,, Over Swamp between Cross Roads, La Perouse to Bunnerong Road			,,	.....	99 17 0	99 17 0
,, Opperman's—approach			,,	.....	39 11 10	39 11 10
,, Paynes			,,	.....	4 7 0	4 7 0
,, Pyrmont—repairs			1893	.....	8,999 19 11	7,862 0 7
,, Paterson—repairs			1892	.....	452 11 5	84 1 4
,, Peppers'			1894	.....	76 7 3	76 7 3
,, Parramatta River			,,	.....	835 16 5	835 16 5
,, Poor Man's Hollow			,,	.....	21 13 0	21 13 0
,, Reedy Creek			,,	.....	87 15 2	87 15 2
,, Redbournberry—repairs			,,	.....	1,155 9 2	1,155 9 2
,, Sherwood—approach			,,	.....	66 18 6	66 18 6
,, Sandy Creek, Guyra to Inverell			1893	.....	44 18 10	28 16 2
,, Sandy Creek, Caramana			1894	.....	13 2 6	13 2 6
,, Shea's Creek			1893	.....	47 7 1	12 3 1
,, Stoney Creek, near Farley's			1894	.....	3 18 4	3 18 4
,, Spring Creek			,,	.....	3 0 0	3 0 0
,, Smith's Rivulet—repairs			,,	.....	244 8 2	244 8 2
,, Snakey Creek and approach			,,	.....	74 0 0	74 0 0
,, Scott's Creek			,,	.....	89 4 0	89 4 0
,, Snowy River			,,	.....	83 3 11	83 3 11
,, Sportsman's Creek			,,	.....	10 6 0	10 6 0
,, Tamworth			,,	.....	12 9 7	12 9 7
,, Thompson's Creek			,,	.....	21 18 11	21 18 11
,, Tucker's Creek			,,	.....	1 5 0	1 5 0
,, Tilbuster Creek			1893	.....	152 2 3	128 15 6
,, Tuckombil Creek			1894	.....	119 19 11	119 19 11
,, Tharwa			,,	.....	4,163 7 2	4,163 7 2
,, Throsby Creek—one and two			1893	.....	119 19 3	25 10 0
,, Thirlmere to Cedar Creek—on road			1894	.....	61 15 8	61 15 8
,, Tarraganda Lane			1893	.....	120 2 6	0 2 6
,, Union Bridge, Albury—repairs			1892	.....	90 0 10	20 14 6
,, Vacey's, Paterson River			1894	.....	61 9 0	61 9 0
,, Vaughan-street—repairs			,,	.....	25 0 0	25 0 0
,, Victoria, Nepean River			,,	.....	11 18 7	11 18 7
,, Warri			,,	.....	20 0 0	20 0 0
,, Wollombi and Chandler			,,	.....	26 8 6	26 8 6
,, Wallaroi Creek			,,	.....	0 10 0	0 10 0
,, Washpool—approaches			,,	.....	13 5 1	13 5 1
,, Wentworth, at Abbotsford Ferry			,,	.....	6 0 0	6 0 0
,, Wahgunyah—old bridge			,,	.....	89 17 6	89 17 6
,, Wagga—old bridge			,,	.....	105 5 11	105 5 11
,, White's Lagoon			,,	.....	37 12 0	37 12 0
,, Wallerawang to Mudgee—bridges and culverts			,,	.....	98 4 0	98 4 0
,, Wickham—approach			,,	.....	294 16 0	294 16 0
,, Wakool River			,,	.....	333 15 10	333 15 10
,, Wickham and Bullock Island			,,	.....	279 7 0	279 7 0
,, Woolshed Creek at Sutton's			,,	.....	31 3 11	31 3 11
,, Williams River at Dillon's			,,	.....	567 0 0	507 0 0
,, Warkworth			,,	.....	159 11 3	159 11 3
,, Windsor			,,	.....	735 0 11	735 0 11
,, Williams River at Glenwilliam			,,	.....	31 4 0	31 4 0
,, Wintervale Creek			,,	.....	77 2 6	77 2 6
,, Waterworks, Botany			,,	.....	351 4 10	351 4 10
,, Wingecarribee			,,	.....	5 13 0	5 13 0
,, Yanko Creek at Wilson's			,,	.....	575 9 10	575 9 10
,, Darling River at Wentworth		Loans and Consolidated Revenue.	1888	22,231 14 8	.....	618 11 10
,, George's River, Liverpool			1891	12,233 0 2	.....	4,315 15 8
,, Morton's Creek			,,	736 1 9	.....	510 14 3
,, Murray River, Tocumwal			1890	19,139 4 2	.....	13,733 7 5
,, Victoria, Wallis Creek, East Maitland			1894	.....	216 11 1	216 11 1
,, Bega River, Tarraganda		Loans.	1889	12,548 16 9	.....	4,633 18 11
,, Cunningham's Point, near Bombala			1892	3,902 15 8	.....	901 2 11
,, Goulburn River			1889	6,916 17 5	.....	1,496 14 11

RETURN OF PUBLIC WORKS—*continued.*

Work, and where situated.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30 June, 1895.	Amount expended from 1 January, 1894, to 30 June, 1895.
				£ s. d.	£ s. d.	£ s. d.
Bridge, Hunter River, between Maitland and Branxton (Elderslie Bridge)	Maintenance, repair, and construction.	Loans.	1889	20,015 1 4	.....	.....
„ Lachlan River, at Forbes			„	17,040 18 4	.....	66 18 6
„ Murrumbidgee, at Narrandera			1888	10,323 19 7	.....	107 6 1
„ Paroo River, Wanaaring			1892	3,592 11 0	.....	386 15 0
„ Wilson River, Ballingarra			1891	870 15 2	.....	776 0 11
„ Tighe's Hill			1894	2,100 0 0	.....	2,100 0 0
„ Darling River, Wilcannia			1888	.....	17,797 14 2	4,131 10 9
„ Edwards River, Deniliquin			1895	.....	172 4 9	172 4 9
„ Kangaroo River, Kangaroo Valley, Moss Vale			„	.....	84 14 5	84 14 5
„ Murrumbidgee, at Wagga			1893	.....	10,364 4 7	10,336 18 9
„ Murray River, at Swan Hill			1892	.....	706 15 9	25 0 0
„ McIntyre, at Inverell			1891	.....	1,154 1 0	1,031 5 4
„ Stonequarry Creek, Picton			„	.....	104 9 5	12 12 2
Road, Fernmount to Grafton and Armidale Road			1878	.....	20,936 4 8	.....
„ Kiandra			1890	.....	12,100 0 0	.....
„ Main South Road to Wombeyan Caves			„	.....	1,704 6 11	5 19 0
Totals	.....	.....	...	236,945 3 9	7,664,222 7 4	830,654 2 9
SEWERAGE BRANCH.						
Opening New Street, Paddington	Constructing	Consolidated Revenue.	1886	.....	5,268 4 3	7 3 6
Country and Suburban Surveys			1885	.....	12,225 11 5	2,234 4 8
Contingencies			1889	.....	10,511 17 0	2,301 12 9
Instruments			1891	417 9 5	.....	2 13 0
Drainage of Sandgate Cemetery, Newcastle			1893	.....	851 8 10	802 4 10
Sewerage, City of Sydney, Kent-street Sewer		Loans.	1879	.....	822,748 9 1	6,245 16 1
Darling Point Sewerage			1890	.....	24,788 18 6	2,130 15 2
Pyrmont „			1891	.....	607 9 2	86 10 4
Manly „			1889	.....	637 0 0	333 16 3
Waverley and Woollahra Sewerage			„	.....	33,738 2 1	345 4 7
Parramatta „			1882	.....	16,685 7 11	2,600 9 1
North Sydney „			1889	.....	80,659 12 6	32,470 5 6
Western Suburbs „			„	.....	401,523 9 4	110,156 19 5
Randwick „			1893	.....	450 2 8	129 15 0
Rose Bay Side Drainage Storm-water Channel			1891	.....	3,094 14 4	65 9 0
Neutral Bay and Careening Cove Storm-water Channel			1892	.....	6,573 1 0	706 18 9
Randwick (East and West) Storm-water Drainage			1893	.....	128 2 4	18 10 10
Iron Cove Creek Storm-water Channel			1891	.....	25,835 1 5	7,224 10 5
Long Cove Creek Storm-water Channel			„	.....	16,577 1 2	3,784 13 11
Johnston's Creek „			„	.....	500 3 8	128 16 0
Newtown Branch, Johnston's Creek Storm-water Channel			1894	.....	175 1 2	175 1 2
Dowling-street to Buckland-street „			1892	.....	6,758 17 6	6,745 15 1
Point Piper Road „			„	.....	5,318 7 8	4,781 5 4
Ironbark Creek, Plattsburg „			„	.....	2,354 11 9	1,466 2 0
Rookwood Necropolis Drainage			„	.....	13,903 9 10	13,309 12 6
Minor Storm-water Sewers, Western Drainage			„	.....	9,873 10 2	6,079 15 2
Homebush Creek Storm-water Channel			„	.....	10,061 15 7	9,434 19 10
Rockdale Creek Storm-water Sewer			1895	.....	51 4 4	51 4 4
Kensington Estate Drainage, Randwick			„	.....	736 2 1	736 2 1
Bay-street Storm-water Sewer			1894	.....	91 6 6	91 6 6
Clay Cliff Creek, Parramatta, Storm-water Channel			„	.....	1,931 18 6	1,931 18 6
Brickfield Creek, Parramatta, „			1895	.....	205 10 11	205 10 11
Storm-water Sewer, Newcastle District Pasturage Reserve Drainage			„	.....	2,346 12 5	2,346 12 5
Easton Park, Balmain, Storm-water Channel			1894	.....	283 15 11	283 15 11
Long Cove Sewer, Leichhardt Branch			„	.....	5,000 0 0	5,000 0 0
„ Petersham Park			„	.....	2,483 16 2	2,483 16 2
„ Smith-street Branch			„	.....	1,595 10 0	1,595 10 0
Raising Storm-water Sewer from Eveleigh Sheds to Copeland-street			„	.....	1,727 19 6	1,727 19 6
Storm-water Sewer, Buckland-street, through Alexandria			„	3 9 3	.....	3 9 3
Beattie-street, Balmain, Storm-water Channel			1892	2,569 15 0	.....	29 9 0
White's Creek Storm-water Sewer			1895	.....	44 8 4	44 8 4
Storm-water Sewer, Munni-street to Shea's Creek			1891	24,805 3 8	.....	316 12 6
Dowling and Sullivan Resumption, Meriveree Cliff, Bondi			1894	.....	1,256 5 0	1,256 5 0
Storm-water Channel, Stanmore Road, Marrickville			1895	.....	305 12 2	305 12 2
Resumption of Land, North Sydney	.....		1894	.....	9,509 9 10	9,509 9 10
Totals	.....	.....	...	27,795 17 4	1,539,419 2 0	241,688 2 7

SUMMARY OF EXPENDITURE FROM 1ST JANUARY, 1894, TO 30TH JUNE, 1895.

	Revenue.	Loans.	Totals.
	£ s. d.	£ s. d.	£ s. d.
Roads and Bridges	797,592 9 6	33,061 13 3	830,654 2 9
Sewerage	5,347 18 9	236,340 3 10	241,688 2 7
GRAND TOTAL	.....	.....	1,072,342 5 4

ROADS, BRIDGES, AND SEWERAGE EXPENDITURE.

Year.	Expenditure by Officers of Department.	Expenditure by Trustees.	Expenditure by Sewerage Branch.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1857	100,000 0 0	.....	.....	100,000 0 0*
1858				
1859	46,621 16 10	.....	.....	46,621 16 10
1860	114,585 18 5	.....	.....	114,585 18 5
1861	199,208 6 10	.....	.....	199,208 6 10
1862	85,641 4 0	50,000 0 0	.....	135,641 4 0
1863	154,497 7 4	70,000 0 0	.....	224,497 7 4
1864	185,248 3 11	70,000 0 0	.....	255,248 3 11
1865	123,867 4 0	30,822 0 0	.....	154,689 4 0
1866	109,075 12 8	39,731 0 0	.....	148,806 12 8
1867	147,750 14 6	38,667 0 0	.....	186,417 14 6
1868	140,086 10 4	36,923 0 0	.....	177,009 10 4
1869	152,323 5 0	40,802 0 0	.....	193,125 5 0
1870	141,863 2 4	40,336 0 0	.....	182,199 2 4
1871	182,726 11 0	40,501 0 0	.....	223,227 11 0
1872	144,257 5 6	34,728 0 0	.....	178,985 5 6
1873	247,858 9 0	36,098 0 0	.....	283,956 9 0
1874	257,366 5 8	41,524 0 0	.....	298,890 5 8
1875	356,002 10 0	45,564 0 0	.....	401,566 10 0
1876	366,802 14 0	37,153 0 0	.....	403,955 14 0
1877	413,625 4 8	51,550 0 0	.....	465,175 4 8
1878	497,032 17 5	24,280 0 0	.....	521,312 17 5
1879	649,773 11 5	25,428 0 0	409 12 3	675,611 3 8
1880	614,708 11 3	28,800 0 0	3,206 18 0	646,715 9 3
1881	484,567 2 8	23,186 0 0	16,818 1 7	524,571 4 3
1882	577,212 4 1	24,722 0 0	36,507 13 2	638,441 17 3
1883	613,847 1 6	24,938 0 0	105,607 17 7	744,392 19 1
1884	750,584 1 10	27,722 0 0	122,526 10 2	900,832 12 0
1885	800,962 5 11	24,404 0 0	170,765 15 1	996,132 1 0
1886	628,379 4 5	28,414 0 4	160,693 19 10	817,487 4 7
1887	721,993 16 6	45,433 1 3	128,956 8 5	896,383 6 2
1888	663,928 14 10	31,503 0 0	76,061 18 10	771,493 13 8
1889	632,397 10 11	31,361 0 0	90,931 19 2	754,690 10 1
1890	770,808 18 10	34,500 0 0	93,992 19 2	899,301 18 0
1891	965,687 14 11	31,990 0 0	211,697 4 6	1,209,374 19 5
1892	859,027 13 11	30,605 0 0	213,407 9 9	1,103,040 3 8
1893	676,233 1 8	30,330 0 0	113,920 5 11	820,483 7 7
1894 to 30th June, 1895 (18 months)	800,620 2 9	30,034 0 0	241,688 2 7	1,072,342 5 4
£	15,377,173 0 10	1,202,049 1 7	1,787,192 16 0	18,366,414 18 5

* Approximate.

(XIII.)

STATISTICAL Information with reference to Roads and Bridges, showing total for the whole of the Road Districts, irrespective of time or dates of effecting work, from 1st January, 1894, to 30th June, 1895.

ROADS.

Classification.	Metalled, Gravelled, or Ballasted Road.		Formed Road.		Cleared and Partly Drained Road.		Mountain Passes and Heavy Side or Through Cuttings.		Bush or Untouched Road.		Total Mileage (of all the preceding columns).	
ROADS UNDER RESIDENT ENGINEER.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.	Miles.	Chains.
Scheduled Roads—												
Outside Municipalities	5,374	2	3,481	70	9,091	78	1,350	37	5,077	34	24,375	61
Within Municipalities	175	30	21	9	7	59	2	32	9	40	216	10
Unclassified and other Roads—												
Outside Municipalities	147	49	355	27	1,781	38	45	11	6,466	73	8,796	38
Within Municipalities	9	28	5	14	11	25½	0	62	10	42	37	11½
ROADS UNDER MUNICIPAL COUNCILS.												
Within Municipalities and annually subsidised by the Department	423	70¾	167	65¾	212	44	5	78	129	27	939	45½
ROADS UNDER TRUSTEES.												
Scheduled Roads	380	26	519	78½	401	10½	80	33	206	32	1,588	20
Unclassified and other Roads	2	42	15	38	18	20	1	0	79	60	117	0
Totals	6,513	7¾	4,566	62¼	11,524	35	1,486	13	11,979	68	36,070	26

CAUSEWAYS.

Number.	Total Length in feet.
12,383	296,812
12,383	296,812

CULVERTS.

Classification.	Number.	Total Length in feet.
Iron Decked	78	1,177½
Stone, Brick, or Concrete	524	4,026
Timber Deck on Stone, Brick, or Concrete	188	2,035
Timber	17,845	162,616½
Pipe	9,952	252,367
Totals	28,587	422,222

BRIDGES (20 feet Span and over).

Classification.	Number.	Number of Spans.	Total Length in feet.
Iron or Steel and Stone	107	292	252,082
Timber	2,568	7,112	
Totals	2,675	7,404	252,082

PUNTS, FERRIES, BOATS.

Classification.	How Worked.				Total No.	Total Width between Mooring Posts in ft.
	Oars only.	Wire Rope without Gearing.	Hand Gearing and Wire Rope.	Steam Gearing and Wire Rope.		
	No.	No.	No.	No.		
Iron Punts	...	...	3	6	9	8,910
Timber Punts	...	25	63	1	89	59,925
Steam Launches	...	...	...	...	2	...
Horse Boats	...	1	...	...	1	1,782
Flood Boats, iron	5	...	...	...	5	180
Ditto timber	60	...	...	...	60	1,000
Other Boats	122	...	...	..	122	515
Totals	187	26	66	7	288	72,312

NUMBER OF MEN EMPLOYED.

Monthly average for 1894-5:—

By Department	1,446
By Contractors	4,194
Total	5,640

OFFICERS TRAVELLING FOR 1894 & 1895.

	Miles by Road.	Miles by Rail.	Total.
Resident Engineer	350,412	85,987	436,399
Assistants	142,898	31,729	174,627
Totals	493,310	117,716	611,026

Government Architect's Branch.

(XIV.)

REPORT OF THE GOVERNMENT ARCHITECT.

Sydney, 10 January, 1896.

I have the honor to present my report upon the work carried out in this Branch for the 18 months ending 30th June, 1895, in the erection and completion of new public buildings, and in repairing and furnishing and improving existing ones, and also in carrying out other miscellaneous services.

The expenditure is detailed in the Schedule attached, and, as compared with that of the previous years 1893–4, is as follows :—

	1894–5 (18 months).			1893–4.		
	£	s.	d.	£	s.	d.
*Buildings and Services	192,109	7	7	215,395	19	8
*Furniture...	14,878	8	9	6,751	16	9
Officers' expenses, including Travelling and Contingencies	23,607	16	3	17,175	11	3

This expenditure has been incurred in connection with 630 buildings, of which nine are buildings completed or entirely erected within the period.

Uniform care has been exercised in dealing with these several expenditures, and notwithstanding that during the period considerable alterations have been effected in the office management, and the "General Conditions of Contract" entirely revised, no litigation has taken place, but, on the contrary, proper settlements have in all cases been arrived at.

The amount expended, it will be seen, is considerably smaller than that of previous years, and this is accounted for by the fact that the Government has, during the period under review, pursued a policy of the strictest retrenchment and economy, so that the erection of no new building was undertaken except where absolutely necessary for the proper performance of the Public Service, a large number of schemes already more or less dealt with in the office being postponed until the circumstances of the Colony altered for the better.

In addition to these, it may be noted that owing to the generally depressed condition of the building trade work was done at greatly reduced cost, amounting to as much, probably, as 25 per cent., and therefore the expenditure covers a comparatively greater amount of work than that done in previous years.

The following buildings and works of importance have been completed during the period :—

Building.	Work.	Amount.		
		£	s.	d.
Royal Mint	Renovations, additions	6,686	9	5
Ordnance Department		1,900	17	0
Regent-street Lockup	Erection	3,495	1	7
Sydney Hospital	Completion	80,810	16	9
Gladesville Hospital for Insane	New wing, &c.	11,003	2	4
Coast Hospital, Little Bay	Additions, &c.	1,994	15	10
Newtown Post and Telegraph Office	Erection	4,905	11	3
Newington Asylum	Additions	4,235	1	4
Parramatta Hospital for Insane	Additions	2,800	2	6
Rydalmere Hospital for Insane	Additions	15,335	13	11
Parramatta Gaol	Additions	1,712	11	6
Rookwood Benevolent Asylum	Additional pavilions	5,038	13	2
Bathurst Gaol	Additions	1,594	9	1
Corowa Police Quarters, &c.	Erection	2,364	16	3
Liverpool Lockup	Erection	1,387	6	0
Maitland Gaol	Additions	1,267	5	9
Macksville Court and Watch House	Erection	2,400	1	2
Moree Lands Office	Erection	3,384	17	0
Newcastle Boatmen's Cottages	Erection	3,688	13	4
Newcastle Hospital for Insane	Additions	917	12	7
Parkes Post and Telegraph Office	Additions	1,257	6	3

* Of the above amount £93,059 2s. 8d. was paid from Consolidated Revenue, and £113,928 13s. 8d. from Loan Votes.

I attached to the Annual Report of 1892 a complete schedule to date of the buildings in charge of this branch, setting forth the estimated value of the sites and the actual cost of erection, or where this is not possible, the estimated value of the buildings. Correcting this schedule to date of the period of the present report the results are as follows :—

List as per Return 1893–4...	£8,248,211
Do 1894–5...	162,411
Total...	£9,410,622
Total number of buildings and establishments	947

The above is, of course, exclusive of the considerable sums that are annually expended on minor additions and improvements and general repairs, which are all disbursed from Revenue.

Since this Schedule was originally prepared, it is well known that real property in the Colony has suffered a most serious depreciation, and, therefore, the above figures must not be taken as any guide to present values.

I am able to report that the country buildings are being gradually brought up into a better state of repair, but I would again invite attention to the inadequacy of the Service Votes which are appropriated for this purpose. In the report of 1893 I ventured to show the great diminution in the amount voted, the same decreasing from £82,000 in 1889 to £27,400 in 1893, the amount voted for the period covered by this report being £46,000, or £30,666 per annum.

Allowing £8,250,000 as the capital cost of the buildings new, it may be taken that depreciation takes place at the rate of at least 1·25 per annum, giving the average life of a building at about ninety years. The sum at my disposal, namely £30,666, represents ·37 per cent. only, and when it is taken into consideration that this percentage has to cover not only annual repairs, but numerous minor improvements and additions, it will be seen that the service is to a degree below the point of efficiency.

To put this matter in another way—the average sum available to be expended under these heads on each building amounts to £32 7s. 8d., and it must be recollected that not only is a small country post office included, but such large establishments as Callan Park Hospital for the Insane, Parliament House, Government House, &c. It is, therefore, apparent that many buildings must necessarily remain year after year without proper attention.

I have before stated that a large portion of this sum has been appropriated from perpetual loans to meet the capital cost of these buildings, and it is a matter for serious consideration, therefore, whether a larger percentage on this amount should not be expended upon the buildings; otherwise, the value of the security must be yearly diminishing.

The important buildings of the Sydney Hospital have been erected at a cost of £80,810 16s 9d., so far as the second and completing portion is concerned, under the supervision of Mr. J. Kirkpatrick.

A commencement was made with the scheme for the erection of the Kenmore Hospital for the Insane, and the sum of £17,245 expended in the partial erection of the Administrative Buildings which it is intended shall temporarily accommodate patients, pending the erection of the patients' wards.

In July, 1894, a fire occurred in the roof of the Public Works Offices, doing damage to the extent of about £1,100, and in considering the rebuilding that became necessary, the Minister thought it advisable to add an extensive mansard roof and central dome, thus giving a large amount of additional accommodation, and adding considerably to the architectural completeness of the building. After deliberation he deemed it desirable to depart, in this case, from the usual method of inviting tenders on public competition, and instructed that the work should be carried out by the direct employment of workmen, and the purchase of the necessary plant and material.

Towards the end of 1894 the Government saw its way to institute a season of greater activity, and the erection of many buildings in the country, which had previously been deferred for reasons already given, it was now found desirable to proceed with, accordingly Parliament voted in December the sum of £136,635 towards that object, and I then received instructions from the Minister to proceed with the preparation of the plans and the inviting of tenders for upwards of eighty-three buildings distributed in different parts of the country.

The staff was then much reduced, and it became necessary to engage a number of temporary draftsmen. With the Minister's permission I instituted a competitive examination, with the result that out of 72 applicants for employment 50 underwent the test examination. This enabled me on merit alone to recommend the engagement of the six draftsmen required, and the result has proved satisfactory.

During the period covered by this report it was found that the number of private buildings rented by the various Government Departments was entailing a very large and increasing annual rental, and steps were taken to see what could possibly be done in rearrangement of the Government Departments, so that as the various outside leases fell in, these could be more fully occupied, and the rented premises given up.

As opportunities occurred, therefore, arrangements were made, which I am confident will show eventually that very large savings have been effected, in addition to greater efficiency and centralisation of the Government Offices generally.

In January last a Royal Commission to inquire into the Civil Service was sitting, and I was called upon to give evidence before it, both as regards the duties and salaries of the various officers, the general organisation of the office, and the procedure relative to the erection of new public buildings. My evidence will be found in the report of the Commission issued 8th April, 1895.

The Professional Staff at the end of the period reported on (with the exception of the employment of the temporary draftsmen already referred to) consists of the same personnel as during the previous year and at the same salaries.

The

The Clerical Staff underwent considerable alteration consequent on the re-organisation of the Clerical and Accountancy Branches of the Public Works Department generally. This change involved the retirement of two officers of long standing and of proved zeal and ability, Mr. G. B. Stack, accountant, on twelve months' leave of absence, at the expiration of which period he will have completed 33 years and three months in the Service, and Mr. L. J. Marks, record clerk, on nine months' leave of absence, at the expiration of which period he will have completed twenty-five years and three months service, also the transfer of all other officers (including Mr. S. Steel, Chief Clerk) to the Public Works Establishment, with the exception of Mr. Forsythe, Secretary, Mr. Cooper, Shorthand-writer and Correspondence-clerk, and two Specification Clerks, without whom it would have been impossible to have conducted the clerical work pertaining to the professional side of the office.

The staff at the close of June, 1895, was as follows :—

Government Architect
Principal Assistant Architect
2 Assistant Architects
3 „ „ (acting)
Building Surveyor
Sanitary Engineer
6 District Inspectors
5 Draftsmen
9 Draftsmen (temporarily engaged)
11 Clerks of Works
Plan-mounter, &c.
Secretary
Shorthand and Correspondence Clerk
2 Specification Clerks
(Chief Clerk and 7 Clerks transferred during period).

The total office expenses, including contingencies, travelling expenses, &c., amount to £23,607 16s. 3d., of which the sum of £4,430 7s. 1d. was provided for in the Clerical Division of the Public Works Department.

No staff appointments were made during the period.

In former reports I have endeavoured, as correctly as possible, to give approximate statements as to the percentage costs on the expenditure under the following heads :—

Professional,
Superintendence of Works,
Clerical,
Contingencies, travelling expenses, &c.,

but, inasmuch as a large amount of office work, particularly in the Professional Branch, has been constantly performed, which has no reference to expenditure whatever, it has always been somewhat difficult to ascertain the percentage with an absolute degree of accuracy.

A return was asked for in the House for the expenditure and cost of carrying out works during the twelve months ending August 31st, 1894—a period in which, it must be observed, the strictest economy was being exercised, and the money expended was devoted almost entirely to general repairs and small additions on buildings scattered throughout the Colony, in which the maximum of services were required for the minimum of result. Under these somewhat disadvantageous circumstances, the return came out as follows :—

Professional	2·50 per cent.
Superintendence	2·50 „
Clerical	1·50 „
Contingencies	1·00 „

The above rate is the average taken over works of every character, including a small repairing contract for £25 in a country township, perhaps 500 miles from Sydney, as well as on the larger works near the city, amounting, as in the case of additions to the Hospital for the Insane, Rydalmere, to £15,000.

In conclusion, I have again great pleasure in bearing testimony to the zeal, skill, and industry displayed throughout the whole of the period by the staff under my direction.

(XV.)

RETURN of Public Works carried on by Government Architect from 1st January, 1894, to 30th June, 1895.

Work, and where situated	Estimated cost	Whether Constructing or under Repair	Fund from which the Expense is defrayed	When Commenced	If Finished, actual amount of Expenditure	If Unfinished, amount of Expenditure to 30th June, 1895	Amount expended from 1st January, 1894 to 30th June, 1895	Furniture
SYDNEY	£				£ s d	£ s d	£ s d	£ s d
Audit Office		Repairs, &c	Con Rev	1894	38 18 6		13 8 4	25 10 2
Attorney General's Office		,,		,,	0 6 9		0 6 9	
Art Gallery		,,		,,	90 8 1		90 8 1	
Agricultural Department		,,		,,	105 9 0		69 4 9	36 4 3
Admiral's Residence		,,		,,	363 15 9		193 14 10	170 0 11
Argyle street Police Station	1,200	Erection	Loans	1895		289 19 11	289 19 11	
Agent General's Office, London		Furniture		,,	42 0 9			42 0 9
Belmore Barracks		Repairs, &c	Con Rev	1894	72 7 6		36 2 1	36 5 5
,,	500	Additions		1895		410 0 0	410 0 0	
Botanic Gardens		Repairs, &c		1894	112 2 2		104 6 6	7 15 8
Custom House		,,		,,	29 6 2		21 17 2	3 9 0
City Improvement Board		,,		,,	6 8 9		4 15 11	1 12 10
Central Police Court	48,000	Erection	Loans	1891	40,851 7 0		304 9 2	
,,		Repairs, &c		1895	22 19 7		14 14 5	8 5 2
Civil Service Board Office		,,		1894	22 5 2		14 16 8	8 8 6
Chancery Square		Alterations &c		,,	151 2 3		125 12 0	25 10 3
Coroner's Office		Repairs, &c		,,	2 9 6		1 7 6	1 2 0
Clerk of the Peace Office		,,		,,	14 6 2		14 6 2	
Crown Solicitor's Office		,,		,,	80 2 6		10 6 1	69 16 5
Cook Park		Gas		,,	9 6 3		9 6 3	
"Carrington" Steam Launch		Furniture		,,	0 4 0			0 4 0
Church and School Lands Office		,,		,,	0 12 5			0 12 5
Conciliation Trades Disputes Office		Repairs, &c		,,	16 2 4		7 6 0	8 16 4
Chicago Exhibition Commission Office		Furniture		,,	0 10 0			0 10 0
Clarence street Lock up		,,		,,	0 8 7			0 8 7
Comptroller General of Prisons Department		Repairs, &c		1895	0 12 6		0 12 6	
Darlinghurst Police Station		,,		1894	8 8 0		8 8 0	
,, Court house		,,		,,	56 13 11		56 13 11	
,, Receiving house		,,		,,	188 12 10		157 6 7	31 6 3
,, Gaol	1,250	Electric Light		1895		920 0 0	920 0 0	
,, ,,		Repairs, &c		,,	1 023 12 0		447 4 6 567 13 7	6 3 3 4 10 8
,, ,,		Additions	Con Rev	1894	119 3 1		119 3 1	
District Court		Repairs, &c			141 0 8		102 4 4	38 16 4
Domain		Additions		1895		120 0 0	120 0 0	
,,		Repairs		,,	11 12 1		11 12 1	
,, Outer Lodge		,,		1894	41 15 8		41 15 8	
,, ,,		Gas		,,	218 18 3		218 18 3	
Captain Hixson's Quarters		Repairs		,,	4 6 9		4 6 9	
Erskine street Police Station		Furniture		,,	4 17 6			4 17 6
Flagstaff Hill Reserve		Gas		,,	37 5 0		37 5 0	
Fisheries Department		Repairs, &c		,,	23 3 1		5 6 9	17 16 4
Forest Department		,,		,,			5 4 2	3 9 10
Free Public Library		Furniture, alterations		,,	51 6 7		46 19 1	4 7 6
,, Lending Branch		Repairs, &c		,,	48 3 7		0 12 6	47 11 1
Fort Macquarie		,,		,,	11 0 0		11 0 0	
General Post Office		Alterations and additions		,,	783 17 2		783 17 2	
,,		Repairs		,,	412 8 11		327 12 5	84 16 6
,,		Land		,,	741 9 4		741 9 4	
Government House		Repairs		,,	1,778 0 8		1,273 4 8	504 16 0
,, Stables		,,		,,	74 12 6		74 12 6	
,, ,,		Alterations		,,	109 18 5		109 18 5	
Government Printing Office	..	,,	Loans	1895		215 1 0	215 1 0	
,,		Repairs, &c		1894	123 2 6		96 0 7	27 1 11
Glebe Island Bridge		Gas		,,	35 2 9		35 2 9	
Government Statist's Office		Repairs, &c		,,	30 11 0		2 2 10	28 8 2
,, Analyst's ,,		Furniture		1895	22 17 0			22 17 0
George street North Post and Telegraph Office		Repairs		1894	0 7 3		0 7 3	
Health Board Office		Furniture		1895	37 7 6			37 7 6
,,		Additions		,,	13 18 0		13 18 0	
Haymarket Post and Telegraph Office		Repairs		1894	0 13 4		0 13 4	
Hyde Park		Gas, &c		,,	365 19 9		365 19 9	
Harbours and Rivers Branch		Furniture		,,	12 14 4			12 14 4
Insolvency Court		Repairs, &c		,,	42 5 0		7 10 8	34 14 4
Inspector General of Police Office		,,	Con Rev	,,	34 5 7		8 12 8	25 12 11
,, ,,		Gas		,,	24 0 0		24 0 0	
,, ,, Residence		Repairs		1895	73 18 11		73 18 11	
Imperial Institute		,,		1894	25 6 5		25 6 5	
Industrial Blind Institute		,,		,,	4 10 0		4 10 0	
Justice Department		Repairs, &c		,,	80 6 9		66 1 9	14 5 0
Kent and Bathurst Streets Police Station		Repairs		,,	0 7 9		0 7 9	
King street Post and Telegraph Office		,,			4 15 0		4 15 0	
Land Court		,,		,,	2 18 10		1 13 6	1 5 4
Lunacy Department		,,		,,	14 5 6		4 18 11	9 6 7
Local Government Board Office		,,		,,	317 5 7		139 6 8	177 18 11
Land Valuator's Office		Furniture, &c		,,	31 0 8		12 13 1	18 7 0
Labour Bureau		Repairs, &c		,,	6 18 6		5 12 3	1 6 3
Lands Office		Alterations, repairs working lifts, &c	Loans and Con Rev	,,	3,486 7 8		3,147 18 1	338 9 7
,,		Erection lifts	Loans	1893	5 780 17 1		2,864 17 5	
,,		Additions		1894	2 914 10 10		2,914 10 10	
Museum		Alteration, &c			193 14 5		193 14 5	
Mint	2 300	Additions and alterations		1893	4,720 9 0		4,165 6 9	
,,		Repairs, &c		1894	1,966 0 5		711 9 6	1,254 10 11
Money Order Office		,,		,,	44 4 9		44 4 9	
Mercantile Explosive Department		Furniture		,,	82 4 4			82 4 4
Mines Department		Additions, &c		,,	196 16 9		196 16 9	
		Repairs, &c		,,	185 7 1		150 11 1	34 16 0
Military Office—Defence		,,		,,	29 8 1		24 17 11	4 10 2
Marine Board Office		,,		1895	1 2 9		1 2 9	
Morgue, North Sydney		Additions	Con Rev	,,	7 14 0		7 14 0	
Master in Equity's Office		Repairs		,,	0 15 0		0 15 0	
Naval Depôt		,,		1894	11 11 7		11 11 7	
Ordnance Department	2,000	Additions, &c		1892	1,900 17 0		610 8 0	30 9 0
Observatory		Repairs		1895	2 15 9		2 15 9	
Parliamentary Buildings		Additions, &c		1894		1 822 1 1	1 557 15 5	264 5 8
Phillip Park		Repairs		,,	2 11 8		2 11 8	
Patents Office		Repairs &c		,,	45 12 1		22 17 2	22 14 11
Public Wharfs Department		Furniture		,,	2 0 0			2 0 0
Pharmacy, Board of		Additions		,,	27 18 4		27 18 4	
		Repairs, &c		1895	72 7 7		62 17 10	9 9 9
Parcels Office, Postal Department		Repairs		1894	0 1 2		0 1 2	
Pilot Steamer "Captain Cook"		Furniture		,,	4 17 2			4 17 2
Public Instruction Department		Repairs		,,	67 19 1		67 19 1	
Public Works and Colonial Secretary's Departments	13,000	Additions	Loans	,,		11,177 14 4	11,177 14 4	
,, ,, ,,		Repairs, &c	Con Rev	,,	1,260 2 10		829 4 3	435 18 7

RETURN OF PUBLIC WORKS, &c.—*continued*

Work, and where situated	Estimated Cost	Whether Constructing or under Repair	Fund from which the Expense is defrayed	When Commenced	If Finished, actual amount of Expenditure	If Unfinished amount of Expenditure to 30th June, 1895	Amount expended from 1st January, 1894, to 30th June, 1895	Furniture
SYDNEY—*continued*	£				£ s d	£ s d	£ s d	£ s d
Public Works Committee		Repairs, &c	Con / Rev	1895	6 4 7		6 4 7	
Queen's Statue		Gas	Con	1894	24 5 0		24 5 0	
Registrar General's Office		Repairs	Rev	,,	459 14 2		206 3 4	253 10 10
Railway Department		Repairs &c		,	21 19 6		15 17 11	6 1 7
Regent street Lock up	3,690	Erection	Loans	1893	3,495 1 7		1,195 10 3	17 11 4
Roads and Bridges Department		Furniture	Con	1895	9 0 3			9 0 3
Richmond terrace		Repairs	Rev	1894	16 12 3		16 12 3	
Supreme Court	8,000	Additions, &c	Loans	,,		4,746 7 8	4,687 0 8	59 7 0
,,		Repairs		,,	43 9 9		43 9 9	
Stamp Office		Repairs, &c	Con	,,	16 14 0		15 18 6	0 15 6
South Head Road		Gas	Rev	,,	27 18 9		27 18 9	
South Sydney Morgue		Repairs		,,	3 18 9		3 18 9	
Sheriff's Office		Repairs, &c		,,	7 7 3		4 4 6	3 2 9
Sydney Hospital	64,911	Erection	Loans	1892	80,810 16 9		18,532 13 3	5,236 16 11
,, Domain Branch		Repairs		1894	1 4 9		1 4 9	
Shipping Office		Alterations	Con	,,	20 9 0		20 9 0	
Shaftesbury Reformatory		Repairs	Rev	,,	7 16 5		7 16 5	
Sericultural Institute		Furniture		,	6 2 9		6 2 9	
Treasury		Repairs, &c		,,	167 2 8		68 13 6	98 9 2
University of Sydney—Mining School	6 660	Additions	Loans	1893		6,067 2 5	5 039 2 5	
,, Cottage		,,		1894	550 0 0		550 0 0	
,, Lighting Lamps				,,	177 12 6		177 12 6	
,,		Repairs, &c		,,	808 6 11		191 16 7	616 10 4
,, Rebuilding Turrets	700	Additions	Con	1895	664 6 0		664 6 0	
"Sobraon" Naval Training Ship		Repairs	Rev	1894	199 19 0		199 19 0	
Victoria Park		Gas Lighting		,,	46 11 3		46 11 3	
Water Police Court		Repairs		,,	117 15 7		97 6 7	20 9 0
Water Conservation Commission Office		Furniture		,,	30 12 8			30 12 8
Weights and Measures Office		,,		,,	0 15 9			0 15 9
SUBURBS								
ANNANDALE								
Post and Telegraph Office	1,500	Erection	Loans	1895		250 0 0	250 0 0	
BALMAIN								
Post and Telegraph Office and Court house		Repairs		1894	7 7 2		7 7 2	
BALMAIN WEST								
Post and Telegraph Office	2,400	Erection		,,		2,342 0 8	2,307 0 0	35 0 8
BILOELA								
Gaol		Repairs, &c		,,	175 18 3		163 12 9	12 5 6
BOTANY								
Lock up		Repairs	Con	1895	3 3 2		3 3 2	
CALLAN PARK			Rev					
Asylum		Additions &c		1894	894 19 5		894 19 5	
,,		Repairs, &c		,,	176 17 4		147 9 8	29 7 8
CENTENNIAL PARK								
Governor Phillip's Statue		Additions		1893		5,300 0 0	2,300 0 0	
Repairs Bailiff's Cottage	11 500	Repairs		1894			24 5 0	
Drinking Fountains		Additions		,,		141 6 9	141 6 9	
Laying on Water		,,		,,			57 0 8	
ENMORE								
Post and Telegraph Office	1,000	Erection		1895		320 0 0	320 0 0	
GLADESVILLE								
Hospital for Insane	8,300	Additions and	Loans	1893	11,003 2 4		3,568 9 10	
,,	2,300	alterations						
GLEBE		Repairs, &c	Con	1894	312 17 7		20 10 6	292 7 1
Abattoirs		Chemicals	Rev	,,	111 19 0		111 19 0	
Post and Telegraph Office		Repairs		1895	0 5 0		0 5 0	
HOMEBUSH								
Post and Telegraph Office		Erection	Loans	,,		24 12 6	24 12 6	
HORNSBY								
Police Station		Repairs	Con Rev	,,	8 17 6		8 17 6	
HOGARAH								
Lock up	1,500	Erection	Loans	,,		498 10 10	498 10 10	
LITTLE BAY								
Hospital	2,000	Additions		1894	1,994 15 10		1,994 15 10	
,,		Repairs		,,	112 7 8		112 7 8	
MANLY BEACH								
Police Station		Water service		,,	8 2 6		8 2 6	
Post and Telegraph Office		Land		,,	3 3 0		3 3 0	
MARRICKVILLE			Con					
Lock up		Temporary cell	Rev	,,	54 10 0		54 10 0	
NORTH SHORE								
Railway		Repairs, houses		,,	91 11 6		91 11 6	
NEWTOWN								
Court house		Repairs, &c		,,	78 18 8		20 3 10	58 14 10
Post and Telegraph Office	4,726	Sewerage		,,	188 16 8		188 16 8	
NEWINGTON		Erection	Loans	1892	4,905 11 3		165 9 11	
Asylum		Additions		1894	4,235 1 4		4,235 1 4	
PADDINGTON								
Court house		Repairs, &c		,,	22 10 0		7 12 6	14 17 6
Post and Telegraph Office		,,		,,	1 5 10		1 5 10	
PARRAMATTA								
Industrial School		Furniture	Con	,,	22 10 7			22 10 7
Court house		Repairs, &c	Rev	,,	22 1 10		9 7 8	12 14 2
(Macquarie street) Benevolent Asylum		,,		,,	72 18 10		14 8 10	58 10 0
(George street) ,,				,,	28 13 11		28 13 11	
Post and Telegraph Office		Land		,,	1 379 10 11		1,378 10 11	
Hospital for Insane		Additions	Loans	,,	2,800 2 6		2 800 2 6	
,, ,, (Rydalmere Branch)	13,500	Additions, &c		,,	11,709 2 0		11 552 12 2	156 9 10
Gaol		Repairs, &c		,,	3 626 11 11		3,278 7 6	348 4 5
Police Station		,,	Con	,,	1,712 11 6		1,631 6 11	81 4 7
PYRMONT			Rev	,	4 16 7		4 16 7	
Watch house		,,		1895	25 16 3		25 16 3	
ROOKWOOD								
Benevolent Asylum	5,000	Alterations and additions	Loans	1894	5 038 18 2		5 038 18 2	
RANDWICK								
Post and Telegraph Office		Land		,,	4,141 1 8		4,141 1 8	
REDFERN								
Post and Telegraph Office		Repairs	Con	,,	2 2 8		2 2 8	
Court house		Repairs, &c	Rev		146 15 3		132 0 2	14 15 1
Police Station		Repairs		1895	5 10 1		5 10 1	
RYDE								
Court house		Repairs, &c		,,	12 11 6		6 9 0	6 2 6

Return of Public Works, &c.—*continued.*

Work, and where situated.	Estimated Cost.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30th June, 1895.	Amount expended from 1st January, 1894, to 30th June, 1895.	Furniture.
SUBURBS—*continued.*	£				£ s. d.	£ s. d.	£ s. d.	£ s. d.
ST. LEONARDS.								
Court-house	....	Repairs	Con.	1894	88 15 0	.....	88 15 0	.....
Post and Telegraph Office	....	,,	Rev.	,,	4 18 10	.....	4 18 10	.....
ST. PETERS.								
Post and Telegraph Office	1,200	Erection	Loans	1895	.....	500 0 0	500 0 0	.....
WATSON'S BAY.								
Police Station	....	Repairs, &c.		1894	19 5 0	.....	19 5 0	.....
WAVERLEY.								
Lock-up	....	,,		,,	17 5 0	.....	17 5 0	.....
Post and Telegraph Office	....	Additions		,,	46 2 6	.....	46 2 6	.....
COUNTRY.								
ALBURY.								
Foreman of Works Office	....	Repairs, &c.		1894	2 0 3	.....	0 9 0	1 11 3
Court-house	....	,,		,,	0 15 0	.....	0 5 0	0 10 0
Police Station	....	,,		,,	48 13 11	.....	30 9 8	18 4 3
Gaol	....	,,		,,	69 3 9	.....	69 3 9	.....
Post Office	....	Additions, &c.		,,	253 17 8	.....	253 17 8	.....
ARMIDALE.								
Post Office	....	Repairs, &c.		,,	76 13 9	.....	76 3 9	0 10 0
,, (Old)	....	Additions		1895	6 8 0	.....	6 8 0	.....
Lock-up	....	Repairs		1894	33 16 0	.....	33 16 0	.....
Police Station	....	Repairs, &c.		,,	111 11 1	.....	108 5 11	3 5 2
Gaol	....	,,		,,	85 16 6	.....	81 10 4	4 6 2
Court-house	....	,,		,,	36 12 10	.....	20 7 10	16 5 0
Clerk of Works Office	....	,,		,,	67 7 7	.....	64 10 1	2 17 6
Lands Office	....	Repairs		,,	3 14 6	.....	3 14 6	.....
ADAMINABY.								
Post and Telegraph Office	....	,,		,,	6 0 0	.....	6 0 0	.....
ANGLEDOOL.								
Police Station	....	Repairs, &c.		,,	32 0 1	.....	5 17 11	26 2 2
,,	....	Cell		1895	108 0 0	.....	108 0 0	.....
ARAKOON.								
Police Buildings	....	Repairs		1894	0 3 4	.....	0 3 4	.....
ADELONG.								
Police Station	....	,,		1895	18 10 0	.....	18 10 0	.....
ARALUEN.								
Court-house	....	Furniture		,,	17 4 2	.....	.....	17 4 2
ALBION PARK.								
Post and Telegraph Office	....	Costs, Purchase of site.		,,	15 0 0	.....	15 0 0	.....
Court-house	....	Furniture		,,	17 18 11	.....	.....	17 18 11
BOWRAL.								
Police Station	....	Repairs		1894	7 0 0	.....	7 0 0	.....
BUNGENDORE.								
Court-house	....	Furniture		,,	0 3 1	.....	.....	0 3 1
BYROCK.								
Court-house	....	,,		,,	2 18 5	.....	.....	2 18 5
BYRON BAY.								
Court-house	....	Additions, &c.		,,	10 2 6	.....	10 0 0	0 2 6
Police Station	....	Furniture		,,	1 8 0	.....	.....	1 8 0
BRUNSWICK RIVER HEADS.								
Police Station	....	Repairs		,,	8 10 7	.....	8 10 7	.....
BARRABA.								
Post and Telegraph Office	....	Additions, &c.		1893	116 0 0	.....	66 0 0	.....
Police Station	....	Furniture		1895	5 9 0	.....	.....	5 9 0
Court-house	....	Repairs	Con. Rev.	1894	12 10 0	.....	12 10 0	.....
BOWNA.								
Police Station	....	Additions		,,	60 8 0	.....	60 8 0	.....
BOWRAVILLE.								
Police Station	....	Furniture		,,	31 14 0	.....	.....	31 14 0
BARADINE.								
Police Barracks	....	Repairs		,,	26 5 0	.....	26 5 0	.....
BARMEDMAN.								
Police Station	....	,,		,,	13 3 6	.....	13 3 6	.....
Lands Office	....	Furniture		,,	0 4 0	.....	.....	0 4 0
BETHUNGRA.								
Police Station	....	Repairs		,,	3 2 7	.....	3 2 7	.....
BREWARRINA.								
Court-house	....	Repairs, &c.		,,	149 2 0	.....	148 10 0	0 12 0
BATHURST.								
Post and Telegraph Office	....	Repairs		,,	12 15 0	.....	12 15 0	.....
Police Barracks	....	Additions, &c.		,,	102 4 9	.....	99 0 3	3 4 6
Clerk of Works Office	....	Repairs		,,	8 12 1	.....	8 12 1	.....
Gaol	....	Repairs, &c.		,,	1,594 9 1	.....	1,579 8 7	15 0 6
Court-house	....	Alterations and additions.		,,	278 15 2	.....	278 15 2	.....
,,	....	Repairs		,,	19 13 0	.....	19 13 0	.....
BOURKE.								
Gaol	....	Additions		,,	114 19 0	.....	114 19 0	.....
Police Station	....	Additions, &c.		,,	29 0 0	.....	29 0 0	.....
BROKEN HILL.								
Police Station	....	,,		,,	18 10 0	.....	18 10 0	.....
Court-house	....	Repairs, &c.		,,	19 18 2	.....	1 5 0	18 13 2
Post and Telegraph Office	....	Additions		,,	41 0 0	.....	41 0 0	.....
Gaol	....	Repairs		,,	27 2 2	.....	27 2 2	.....
BINGARA.								
Lock-up	....	,,		,,	38 17 6	.....	38 17 6	.....
BINALONG.								
Court-house	....	,,		,,	3 5 0	.....	3 5 0	.....
Police Station	....	,,		,,	73 0 3	.....	73 0 3	.....
BOMBALA.								
Lock-up	....	,,		,,	9 10 0	.....	9 10 0	.....
,,	....	Additions		,,	22 18 0	.....	22 18 0	.....
BERRY.								
Court-house	....	Furniture		,,	0 6 5	.....	.....	0 6 5
BLAYNEY.								
Court-house	....	Repairs		,,	3 17 6	.....	3 17 6	.....
BALRANALD.								
Gaol	....	,,		,,	2 7 6	.....	2 7 6	.....
Court-house	....	,,		,,	7 0 0	.....	7 0 0	.....
Post and Telegraph Office	....	,,		,,	2 10 0	.....	2 10 0	.....
BERRIMA.								
Post and Telegraph Office	....	,,		,,	1 5 6	.....	1 5 6	.....
Gaol	....	,,		,,	203 8 9	.....	203 8 9	.....
,,	....	Electric light		,,	535 5 6	.....	535 5 6	.....
Police Buildings	....	Repairs		,,	0 12 6	.....	0 12 6	.....
BULLADELAH.								
Court-house	....	,,		,,	44 8 0	.....	44 8 0	.....

Return of Public Works, &c.—*continued.*

Work, and where situated.	Estimated Cost.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30th June, 1895.	Amount expended from 1st January, 1894, to 30th June, 1895.	Furniture.
COUNTRY—*continued.*	£				£ s. d.	£ s. d.	£ s. d.	£ s. d.
BRAIDWOOD.								
Court-house	....	Furniture	Con. Rev.	1894	3 13 5	.....	.....	3 13 5
Police Station	....	Repairs		,,	235 19 0	.....	235 19 0	.....
Gaol	....	,,		,,	1 1 6	.....	1 1 6	.....
BALLINA.								
Court-house	....	,,		1895	3 5 0	.....	3 5 0	.....
BROADWATER.								
Police Station	1,500	Erection		,,	.....	258 15 0	258 15 0	.....
BERRIGAN.								
Police Station	....	Furniture		,,	5 12 3	.....	.....	5 12 3
BURROWA.								
Court-house	....	,,		,,	4 7 6	.....	.....	4 7 6
BRUSHGROVE.								
Lock-up	....	Repairs		,,	28 10 0	.....	28 10 0	.....
BULLI.								
Court-house	....	,,		,,	32 17 6	.....	32 17 6	.....
Monument	....	,,		,,	2 10 0	.....	2 10 0	.....
BEGA.								
Court-house	....	Furniture		,,	1 15 0	.....	.....	1 15 0
CUMNOCK.								
Lock-up	....	,,		1894	12 4 9	.....	.....	12 4 9
CORAKI.								
Post and Telegraph Office	....	Repairs		,,	5 0 0	.....	5 0 0	.....
Court-house	....	Additions		,,	62 0 0	.....	62 0 0	.....
COROWA.								
Police Officer's quarters and stable	2,200	Erection	Loans	1893	2,364 16 3	.....	1,493 13 3	.....
Court-house	....	Alterations		1894	37 16 2	.....	25 0 0	12 16 2
CLARE.								
Police Station	....	Repairs, &c.		,,	155 5 3	.....	150 0 0	5 5 3
COBARGO.								
Court-house	....	Repairs		,,	82 9 3	.....	63 0 0	19 9 3
COONAMBLE.								
Lock-up	....	,,		,,	2 10 6	.....	0 14 6	1 16 0
Court-house	....	,,		,,	0 19 0	.....	0 4 0	0 15 0
CARCOAR.								
Court-house	....	Repairs, &c.		,,	0 19 10	.....	7 7 0	3 12 10
Gaol	....	Repairs		1895	150 19 0	.....	150 19 0	.....
CAMDEN.								
Police Barracks	....	,,		1894	7 9 8	.....	7 9 8	.....
CANONBAR.								
Police Station	....	Additions		,,	4 17 11	.....	4 17 11	.....
Court-house	....	Repairs		1895	290 18 0	.....	290 18 0	.....
CUDGELLICO.								
Court-house	....	Furniture		1894	11 1 10	.....	11 1 10	.....
COPMANHURST.								
Police Station	....	Alterations, &c.		,,	70 10 6	.....	70 10 6	.....
COOMA.								
Court-house	....	Repairs		,,	55 10 0	.....	55 10 0	.....
Gaol	....	Furniture		,,	1 9 8	.....	.....	1 9 8
Post and Telegraph Office	....	,,		,,	4 6 0	.....	.....	4 6 0
Police Station	....	Repairs		1895	0 4 11	.....	0 4 11	.....
CASSILIS.								
Court-house	....	,,		1894	34 10 0	.....	34 10 0	.....
Post and Telegraph Office	....	Additions		1895	198 4 6	.....	198 4 6	.....
CARRINGTON.								
Police Station	....	Repairs		1894	1 19 0	.....	1 19 0	.....
CASINO.								
Police Station	....	,,		,,	54 11 8	.....	49 11 8	5 0 0
Gaol	....	Additions		,,	41 0 0	.....	41 0 0	.....
Post and Telegraph Office	....	Repairs		,,	6 0 0	.....	6 0 0	.....
Lands Office	....	Furniture		1895	12 0 9	.....	.....	12 0 9
CROOKWELL.								
Police Buildings	....	Alterations		1894	47 15 0	.....	47 15 0	.....
COOTAMUNDRA.								
Post and Telegraph Office	....	Alterations, &c,		,,	466 18 6	.....	447 4 6	19 14 0
Court-house	....	,,		,,	.....	238 18 0	238 18 0	.....
Gaol	....	Additions		,,	2 0 0	.....	2 0 0	.....
Police Station	....	Laying on gas		,,	22 0 0	.....	22 0 0	.....
Lands Office	....	Furniture		1895	1 7 11	.....	.....	1 7 11
COOLABAH.								
Police Station	....	Repairs	Con. Rev.	1894	4 15 0	.....	4 15 0	.....
COORANBONG.								
Court-house	....	Furniture		,,	2 12 2	.....	.....	2 12 2
COONABARABRAN.								
Court-house	....	Repairs		,,	1 0 0	.....	1 0 0	.....
Police Station	....	,,		,,	2 11 6	.....	2 11 6	.....
CARGO.								
Police Station	....	,,		,,	27 10 0	.....	27 10 0	.....
COWRA.								
Police Station	....	,,		,,	70 0 0	.....	70 0 0	.....
Post and Telegraph Office	....	Additions		,,	298 0 1	.....	293 19 0	4 1 1
Gaol	....	Repairs		,,	0 12 9	.....	0 2 0	0 10 9
Court-house	....	Furniture		1895	5 15 8	.....	.....	5 15 8
CAMDEN HAVEN.								
Pilot Station	....	Additions		1894	5 17 1	.....	5 17 1	.....
CONDOBOLIN.								
Court-house	....	Furniture		,,	6 10 0	.....	.....	6 10 0
CAMPBELLTOWN.								
Court-house	....	Repairs, &c.		,,	5 13 11	.....	2 18 11	2 15 0
Lock-up and Police Station	....	,,		,,	5 0 0	.....	5 0 0	.....
COBAR.								
Gaol	....	Repairs		,,	40 10 0	.....	40 10 0	.....
Lock-up	....	,,		1895	1 0 0	.....	1 0 0	.....
Court-house	....	,,		,,	0 1 0	.....	0 1 0	.....
Police Station	....	Alterations, &c.		,,	21 15 0	.....	12 0 0	9 15 0
CUNDELTOWN.								
Post and Telegraph Office	....	Repairs		1894	32 5 0	.....	32 5 0	.....
CUDGEN.								
Police Buildings	....	Repairs, &c.		,,	14 16 11	.....	8 6 11	6 10 0
CESSNOCK.								
Police Station	....	,,		,,	7 0 0	.....	7 0 0	.....
COAST HOSPITAL.		Alterations and additions		1895	827 17 9	.....	827 17 9	.....
CARRATHOOL.								
Police Buildings	....	Furniture		,,	34 5 7	.....	.....	34 5 7
CARROLL.								
Police Station	....	Repairs		,,	3 15 0	.....	3 15 0	.....
COOLAH.								
Post and Telegraph Office	....	Reconstruction		,,	17 15 0	.....	17 15 0	.....
CAL-LAL.								
Police Station	....	Furniture		,,	3 0 0	.....	.....	3 0 0

Return of Public Works, &c.—*continued.*

Work, and where situated.	Estimated Cost.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30th June, 1895.	Amount expended from 1st January, 1894, to 30th June, 1895.	Furniture.
COUNTRY—*continued.*	£				£ s. d.	£ s. d.	£ s. d.	£ s. d.
DENILIQUIN.								
Police Station	....	Repairs, &c.		1894	116 18 0	.....	113 13 0	3 5 0
Gaol	....	Repairs		,,	57 0 3	.....	32 18 6	24 1 9
Court-house	....	Additions		,,	115 7 6	.....	111 5 6	4 2 0
Lands Office	....	Repairs		1895	5 10 0	.....	5 10 0	.....
DUBBO.								
Gaol	....	,,		1894	121 0 6	.....	120 14 7	0 5 11
Police Barracks	....	,,		,,	45 0 0	.....	45 0 0	.....
Police Buildings	....	Additions, &c.		,,	21 18 6	.....	21 18 6	.....
Post and Telegraph Office	....	Repairs		,,	3 12 0	.....	3 12 0	.....
Court-house	....	,,		1895	1 10 0	.....	1 10 0	.....
DEEPWATER.								
Court-house	....	,,		1894	52 2 3	.....	52 2 3	.....
DUNGOG.								
Police-station	....	,,		,,	14 10 0	.....	14 10 0	.....
Court-house	....	,,		,,	5 0 0	.....	5 0 0	.....
Post and Telegraph Office	....	,,		1895	7 15 0	.....	7 15 0	.....
DARLINGTON POINT.								
Court-house	....	,,		1894	42 5 8	.....	42 5 8	.....
DALMORTON.								
Police Barracks	....	Additions		,,	75 9 9	.....	64 5 0	11 4 9
Court-house	....	,,		1895	7 10 0	.....	7 10 0	.....
DANDALOO.								
Court-house	1,250	Erection		,,	.....	895 16 0	895 16 0	.....
EMMAVILLE.								
Court-house	....	Repairs		1894	57 2 2	.....	57 2 2	.....
Police Station	....	,,		,,	54 16 0	.....	54 16 0	.....
EDEN.								
Court and Watch-house	....	Repairs, &c.		,,	22 4 9	.....	3 0 0	19 4 9
EMU FLAT.								
Police Station	....	Repairs		,,	6 0 0	.....	6 0 0	.....
EUSTON.								
Police Station	....	,,		1895	16 15 0	.....	16 15 0	.....
EUGONIA.								
Police Station	....	Temporary cell		,,	148 0 0	.....	148 0 0	.....
FORBES.								
Court-house	....	Repairs		,,	135 8 9	.....	135 8 9	.....
Gaol	....	,,		,,	39 16 2	.....	39 16 2	.....
Police Station	....	Additions		,,	1 10 0	.....	1 10 0	.....
Post and Telegraph Office	....	Repairs		,,	13 3 0	.....	13 3 0	.....
Survey Office	....	Furniture		,,	3 4 9	.....	.....	3 4 9
GOSFORD.								
Post and Telegraph Office	....	Repairs		,,	48 12 0	.....	48 12 0	.....
Court-house	....	Repairs, &c.		1894	21 9 11	.....	16 16 5	4 13 6
GOULBURN.								
Gaol	....	Additions		,,	689 4 0	.....	689 4 0	.....
,,	....	Repairs		,,	670 15 11	.....	670 15 11	.....
Court-house	....	Repairs, &c.		,,	69 5 5	.....	8 14 10 45 0 4	9 12 3 5 18 0
Post and Telegraph Office	....	Repairs		,,	28 3 8	.....	28 3 8	.....
Police Barracks	....	,,		,,	111 16 3	.....	77 2 10	34 13 5
Clerk of Works	....	,,		,,	36 14 5	.....	21 17 2	14 17 3
Lands Office	....	Additions		,,	.....	452 10 0	452 10 0	.....
,,	....	Repairs, &c.		,,	2 10 10	.....	0 10 0	2 0 10
GRAFTON.			Con.					
Gaol	....	Repairs	Rev.	,,	1 18 4	.....	1 18 4	.....
Police Barracks	....	,,		1895	26 16 10	.....	26 16 10	.....
Lockup	....	,,		,,	50 18 4	.....	50 18 4	.....
Clerk of Works' Office	....	,,		1894	11 3 2	.....	11 3 2	.....
Court-house	....	,,		,,	193 15 0	.....	193 15 0	.....
Lands and Survey Office	....	,,		,,	1 4 11	.....	1 4 11	.....
Post and Telegraph Office	....	,,		,,	0 6 0	.....	0 6 0	.....
Gaol, New	....	Repairs, &c.		,,	282 6 5	.....	139 18 3	142 8 2
GRAFTON SOUTH.								
Police Barracks	1,200	Erection		,,	.....	797 0 0	797 0 0	.....
Post and Telegraph Office	....	Repairs		,,	9 10 6	.....	9 10 6	.....
GUNDAGAI.								
Court-house	....	Repairs		,,	30 0 0	.....	30 0 0	.....
Gaol	....	Repairs, &c.		,,	1 12 0	.....	0 6 0	1 6 0
Police Station	....	Repairs		,,	7 18 10	.....	2 3 7	5 15 3
GUNNEDAH.								
Lock-up	....	Additions		,,	41 15 0	.....	41 15 0	.....
,,	....	Repairs		1895	13 15 0	.....	13 15 0	.....
GERMANTON.								
Lock-up	....	,,		1894	81 4 0	.....	81 4 0	.....
Post and Telegraph Office	....	,,		,,	124 4 8	.....	124 4 8	.....
,, ,,	....	Additions		1895	35 10 0	.....	35 10 0	.....
GRESFORD.								
Court and Watch House	....	Repairs		1894	143 18 8	.....	130 2 2	13 16 6
GRETA.								
Post and Telegraph Office	....	Erection		,,	1,000 0 0	.....	1,000 0 0	.....
Court-house	....	Repairs		,,	38 11 2	.....	38 11 2	.....
Lock-up	....	,,		,,	0 10 0	.....	0 10 0	.....
GLADSTONE.								
Police Buildings	....	Furniture		,,	5 15 6	.....	.....	5 15 6
GULGONG.								
Lock-up	....	Repairs		,,	93 17 11	.....	83 15 0	10 2 11
GLEN INNES.								
Gaol	....	,,		,,	2 11 0	.....	2 11 0	.....
Court-house	....	Repairs, &c.		,,	25 2 7	.....	25 2 7	.....
Lock-up and Police Station	....	Additions, &c.		,,	68 18 0	.....	68 18 0	.....
GOODOOGA.								
Court-house	....	Repairs, &c.		,,	26 10 6	.....	19 0 0	7 10 6
GUY FAWKES.								
Police Station	700	Erection		1895	.....	516 0 0	516 0 0	.....
GERRINGONG.								
Police Station	....	Repairs		,,	6 15 0	.....	6 15 0	.....
GUYRA.								
Court-house	....	Erection		,,	165 16 3	.....	165 16 3	.....
HOWLONG.								
Court-house	....	Repairs		1894	11 5 0	.....	11 5 0	.....
HILLSTON.								
Lock-up	....	Furniture		,,	11 16 0	.....	.....	11 16 0
Police Station	....	Repairs		1895	3 0 0	.....	3 0 0	.....
Court-house	....	,,		,,	3 10 0	.....	3 10 0	.....
HAY.								
Gaol	....	Repairs, &c.		1894	24 7 8	.....	23 10 4	0 17 4
Police Barracks	....	Repairs		,,	60 1 10	.....	60 1 10	.....
Post and Telegraph Office	....	,,		,,	104 10 0	.....	6 5 0	98 5 0
Court-house	....	,,		,,	70 10 9	.....	31 8 4	39 2 5
,,	....	Fencing		1893	529 4 5	.....	158 4 5	.....

Return of Public Works, &c.—*continued.*

Work, and where situated.	Estimated Cost.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30th June, 1895.	Amount expended from 1st January, 1894, to 30th June, 1895.	Furniture.
COUNTRY—*continued.*	£				£ s. d.	£ s. d.	£ s. d.	£ s. d.
Hamilton.								
Police Station	....	Repairs	Con. Rev.	1894	10 16 6	.....	10 16 6	.....
Hinton.								
Police Station	....	,,		,,	2 10 0	.....	2 10 0	.....
Hillgrove.								
Court-house	....	Additions		,,	11 3 0	.....	11 3 0	.....
Hargraves.								
Police Station	....	,,		,,	105 0 0	.....	105 0 0	.....
Court-house	....	Furniture		1895	5 15 2	.....	.....	5 15 2
Hill End.								
Lock-up	....	Re-erection		1894	12 10 0	.....	12 10 0	.....
Court-house	....	Furniture		1895	13 14 6	.....	.....	13 14 6
Hillview.								
Governor's Residence	....	Additions		1893	2,237 10 5	.....	435 2 9	.....
,, ,,	....	Repairs, &c.		1894	1,327 2 1	.....	705 4 10	621 17 3
Helensburgh.								
Court-house	....	Repairs		1895	4 10 0	.....	4 10 0	.....
Hexham.								
Police Station	....	,,		,,	0 3 0	.....	0 3 0	.....
Inverell.								
Court-house	....	,,		1894	27 11 6	.....	27 11 6	.....
Police Station	....	,,		,,	12 9 7	.....	12 9 7	.....
Post and Telegraph Office	....	,,		,,	3 10 0	.....	3 10 0	.....
Jamberoo.								
Lock-up	....	,,		,,	0 11 4	.....	0 11 4	.....
Jindera.								
Police Station	....	Temporary cell		,,	60 8 0	.....	60 8 0	.....
Jerilderie.								
Lock-up	....	Laying on water		,,	19 0 0	.....	19 0 0	.....
Post and Telegraph Office	....	Repairs		,,	150 13 6	.....	150 13 6	.....
Judgiong.								
Police Station	....	,,		,,	5 13 8	.....	5 13 8	.....
Jindabyne.								
Court-house	300	Additions		,,	.....	189 10 5	182 10 0	7 0 5
Junee.								
Police Station	....	Repairs		1895	2 18 10	.....	2 18 10	.....
Kookabookra.								
Police Station	....	,,		1894	5 5 8	.....	5 5 8	.....
Kiama.								
Court-house	....	Repairs, &c.		,,	98 5 0	.....	88 5 0	10 0 0
Kenmore								
Asylum	15,000	Erection	Loans	,,	.....	17,643 10 11	17,245 5 2	398 5 9
Katoomba.								
Court-house	1,750	,,	,,	1895	.....	1,029 10 3	987 0 0	42 10 3
Lock-up	....	Repairs	Con. Rev.	,,	3 15 0	.....	3 15 0	.....
Kogarah.								
Post and Telegraph Office	....	Furniture		1894	0 18 1	.....	.....	0 18 1
Kempsey.								
Police Station	....	Repairs, &c.		,,	21 17 6	.....	21 17 6	.....
Post and Telegraph Office	....	Additions		,,	142 15 0	.....	142 15 0	.....
Kempsey (West).								
Court-house	....	Furniture		,,	2 0 0	.....	.....	2 0 0
Kelso.								
Lock-up	1,500	Erection	Loans	1895	.....	790 0 0	790 0 0	.....
Lismore.								
Police Station	....	Repairs, &c.	Con. Rev.	1894	6 18 10	.....	5 2 4	1 16 6
Post and Telegraph Office	....	Repairs		,,	12 6 10	.....	12 6 10	.....
Lamberton.								
Police Barracks	....	Repairs, &c.		,,	14 2 7	.....	8 2 0	6 0 7
Court and Watch House	....	Repairs		,,	15 0 0	.....	15 0 0	.....
Liverpool.								
Benevolent Asylum	....	Repairs, &c.		,,	269 15 4	.....	219 15 4	50 0 0
,, ,,	....	Additions		,,	44 12 4	.....	44 12 4	.....
Court-house, &c.	1,500	Erection		,,	1,387 6 0	.....	1,366 11 9	20 14 3
Lochinvar.								
Lock-up	....	Repairs	Con. Rev.	,,	8 3 0	.....	8 3 0	.....
Lucknow.								
Lock-up	....	Temporary cell		,,	67 0 0	.....	67 0 0	.....
Leadville.								
Court-house	....	,,		1895	61 11 6	.....	58 0 0	3 11 6
,,	....	Alterations		1894	8 7 6	.....	8 7 6	.....
Maclean.								
Court-house	....	Repairs		,,	25 17 9	.....	25 17 9	.....
Michelago.								
Lock-up	....	Furniture		,,	12 0 5	.....	.....	12 0 5
Moulamein.								
Police Station	....	Repairs, &c.		,,	78 16 11	.....	62 10 0	16 6 11
Maitland.								
Gaol	....	Repairs	Loans	,,	1,267 5 9	.....	1,267 5 9	.....
Post and Telegraph Office	....	,,	Con. Rev.	,,	16 3 6	.....	16 3 6	.....
Police Barracks	....	Repairs, &c.		,,	16 0 0	.....	12 16 6	3 3 6
Court-house	....	Repairs		,,	6 15 0	.....	6 15 0	.....
Maitland East.								
Court-house	....	,,		,,	18 9 0	.....	18 9 0	.....
Maitland West.								
Court-house, &c.	11,500	Erection		,,	.....	279 0 6	279 0 6	.....
Police Station	....	Furniture		1895	1 14 0	.....	.....	1 14 0
Milton.								
Police Station	....	Repairs		1894	2 14 0	.....	2 14 0	.....
Court-house	....	,,		1895	10 10 0	.....	10 10 0	.....
Morpeth.								
Lock-up	....	Repairs, &c.		1894	18 4 0	.....	16 10 0	1 14 0
Court-house	....	Repairs		,,	31 15 0	.....	31 15 0	.....
,,	....	Additions		,,	167 16 10	.....	167 16 10	.....
Macksville.								
Court and Watch-house	2,300	Erection	Loans	1893	2,400 1 2	.....	73 19 2	71 2 0
Muswellbrook.								
Court-house	....	Repairs, &c.	Con. Rev.	1894	30 5 3	.....	26 2 6	4 2 9
Lock-up	....	Repairs		1895	51 17 0	.....	51 17 0	.....
Moree.								
Gaol	....	Repairs, &c.		1894	3 6 4	.....	1,541 19 1	11 7 3
Lands Office	2,800	Erection, &c.	Loans	1893	3,384 17 0	.....	1,992 14 11	41 0 1
Court-house	....	Furniture	Con. Rev.	1895	1 19 0	.....	.....	1 19 0
Police Station	....	Repairs		,,	16 19 0	.....	16 19 0	.....
Molong.								
Post and Telegraph Office	....	,,		1894	0 7 0	.....	0 7 0	.....
Police Station	....	,,		,,	5 5 3	.....	5 5 3	.....
Court and Watch-house	....	Additions		1895	64 12 0	.....	64 12 0	.....
Moss Vale.								
Post and Telegraph Office	....	Repairs		1894	20 4 0	.....	20 4 0	.....
Court-house	....	Alterations		,,	197 0 6	.....	197 0 6	.....

Return of Public Works, &c.—*continued.*

Work, and where situated.	Estimated Cost.	Whether Constructing or under Repair.	Fund from which the Expense is defrayed.	When Commenced.	If Finished, actual amount of Expenditure.	If Unfinished, amount of Expenditure to 30th June, 1895.	Amount expended from 1st January, 1894, to 30th June, 1895.	Furniture.
COUNTRY—*continued.*	£				£ s. d	£ s. d.	£ s. d.	£ s. d.
MOONBIE.								
Police Station		Furniture		1894	6 9 0			6 9 0
MUDGEE.								
Gaol		Repairs, &c.		,,	198 5 9		14 13 1	183 12 8
Court-house		,,		,,	25 2 11		25 2 11	
Police Station		Additions		1895	48 0 4		48 0 4	
MITTAGONG.								
Court-house		Repairs		1894	40 18 5		40 18 5	
MOUNT VICTORIA								
Police Station		Additions		,,	70 0 11		70 0 11	
MERRIWA.								
Post and Telegraph Office		Additions, &c		,,	38 0 0		38 0 0	
Court and Watch House		,,		,,	26 0 0		26 0 0	
MUNDOORAN.								
Police Station		Furniture		,,	6 6 7			6 6 7
MOGIL MOGIL.								
Police Station		,,		,,	5 15 6			5 15 6
Court house		Repairs		,,	0 10 0		0 10 0	
MOSS GILL.								
Police Station		Furniture		,,	7 12 8			7 12 8
MURRURUNDI.								
Post and Telegraph Office		Repairs	Con. Rev.	,,	87 10 6		87 10 6	
Police Station		Furniture		,,	2 15 0			2 15 0
Court-house		,,		1895	3 8 7			3 8 7
MILTHORPE.								
Police Station		Cell		1894	65 10 0		65 10 0	
Post and Telegraph Office		Land		,,	150 0 0		150 0 0	
MOAMA.								
Court house		Repairs, &c		,,	4 10 2		0 6 0	4 4 2
MINMI.								
Lock-up		Furniture		,,	3 2 3			3 2 3
Post and Telegraph Office		Land		1895	109 5 6		109 5 6	
MARENGO.								
Police Station		Repairs		1894	30 0 0		30 0 0	
MUNGINDI.								
Court-house		Furniture		,,	25 11 9			25 11 9
MULWALA.								
Police Station		Repairs		1895	1 10 0		1 10 0	
MURWILLUMBAH.								
Police Station		,,		,,	9 14 0		9 14 0	
MANILLA.								
Police Station		,,		,,	3 10 0		3 10 0	
MOUNT DRYESDALE.								
Police Station		Erection	Loans	,,	180 0 0		180 0 0	
MAJOR'S CREEK								
Police Station		Repairs		,,	2 0 0		2 0 0	
NEWBRIDGE.								
Lock-up		Cell		1894	76 4 0		76 4 0	
Mining Office		Furniture		,,	1 18 8			1 18 8
NARRABRI								
Police Buildings		Repairs		,,	19 15 8		19 15 8	
Gaol		Repairs, &c.		,,	30 7 1		24 15 10	5 11 3
Lands Office		,,		,,	0 10 8		0 10 8	
Court-house		Furniture		1895	33 6 6			33 6 6
NEWCASTLE.								
Custom House		Repairs		1894	308 12 6		208 12 6	
Seaman's Shelter Shed		,,		,,	2 7 3		2 7 3	
Lock-up		,,		,,	20 14 3		20 14 3	
Shipping Master's Office		Furniture		,,	2 17 0			2 17 0
Water Police Barracks		Alterations		,,		197 10 0	197 10 0	
Police Barracks		Repairs, &c.		,,	18 13 10		14 5 10	4 8 0
Post and Telegraph Office		,,		,,	182 11 0		182 11 0	
Boatmen's Cottages	3,500	Erection	Con. Rev.	1893	3,688 13 4		828 13 4	
Clerk of Works Office		Repairs		1894	25 13 8		25 13 8	
Asylum for Imbeciles		Additions		,,	917 12 7		878 9 2	39 3 5
Court-house		Repairs, &c.		,,	8 11 2		1 13 3	6 17 11
NYNGAN.								
Court-house		Alterations, &c.		1893	751 16 7		564 13 8	67 2 11
Lock-up		Repairs, &c.		,,	117 11 9		12 13 9	4 18 0
Lands Office		,,		1894	0 6 6		0 6 6	
Post and Telegraph Office		Additions		1895	34 10 0		34 10 0	
NEVERTIRE.								
Court house		Furniture		1894	31 10 0			31 10 0
NOADLE.								
Court house		Repairs		,,	1 0 0		1 0 0	
Lock-up	450	Erection		1895	435 8 3		435 8 3	
NARRANDERA								
Court-house		Repairs		1894	6 18 7		6 18 7	
Lock-up		Furniture		1895	7 10 0			7 10 0
NELLIGEN.								
Court-house		Repairs, &c		1894	64 13 8		3 0 3	61 13 5
NOWRA.								
Court-house	3,500	Erection	Loans	1895		938 4 7	938 4 7	
Police Station		Repairs		,,	12 0 0.		12 0 0	
NYMAGEE.								
Police Station		Cell		,,	32 0 0		32 0 0	
NYMBOIDA.								
Police Station		Erection		,,		223 15 0	223 15 0	
NELSON'S BAY								
Post and Telegraph Office.		Repairs		,,	65 10 0		65 10 0	
ORANGE.								
Court-house		Furniture		1894	10 14 6			10 14 6
Police Barracks		Repairs	Con. Rev.	,,	5 0 0		5 0 0	
Gaol		Alterations		,,	150 8 2		150 8 2	
Lands Office		Furniture		1895	5 12 1			5 12 1
OBERON.								
Post and Telegraph Office		Repairs		1894	63 10 0		63 10 0	
OXLEY.								
Police Station		,,		,,	3 0 0		3 0 0	
PARKES.								
Police Station		Furniture		,,	18 19 8			18 19 8
Post and Telegraph Office	1,200	Additions	Loans	,,	1,257 6 3		1,257 6 3	
PATERSON.								
Court-house		Repairs		,,	2 0 0		2 0 0	
Post and Telegraph Office		,,		1895	43 3 0		43 3 0	
Police Station		,,	Con. Rev.	,,	7 0 0		7 0 0	
PICTON.								
Police Station		,,		1894	12 0 0		12 0 0	
Post and Telegraph Office		,,		,,	20 15 0		20 15 0	
PORT MACQUARIE.								
Police Station		,,		,,	25 0 0		25 0 0	

RETURN OF PUBLIC WORKS, &c.—*continued*

Work, and where situated	Estimated Cost	Whether Constructing or under Repair	Fund from which the Expenses is defrayed	When Commenced	If Finished actual amount of Expenditure	If Unfinished, amount of Expenditure to 30th June, 1895	Amount expended from 1st January, 1894 to 30th June, 1895	Furniture
COUNTRY—*continued*	£				£ s d	£ s d	£ s d	£ s d
PLATTSBURG								
Court and Watch House		Repairs		1894	38 9 6		38 9 6	
PAMBULA								
Court house	600	Additions		1895		272 0 0	272 0 0	
Police Station		Repairs		1894	3 15 0		3 15 0	
PENRITH								
Police Station		,,		1895	1 9 0		1 9 0	
Lock up		Erection		,,		90 0 0	509 0 0	
PENNANT HILLS								
Cottage Homes		Furniture		,,	24 2 11			24 2 11
QUIRINDI								
Court house		,,		1894	6 2 1			6 2 1
QUEANBEYAN			Con Rev					
Gaol		Repairs, &c		,,	11 18 7		6 0 8	5 17 11
Police Station		,,		1895	219 10 0		219 10 0	
QUAMBONE								
Police Station		,,		,,	15 10 0		15 10 0	
RIVERSTONE								
Police Station		,,		1894	28 1 6		28 1 6	
ROBERTSON								
Court and Watch House		,,		,,	22 10 7		4 10 0	18 0 7
,, ,,		Additions		1895	36 7 0		36 7 0	
RAYMOND TERRACE								
Court house		Repairs, &c		1894	16 1 1		7 2 6	8 18 7
Lands Office		,,		,,	3 4		0 4 0	4 19 4
Police Station		,,		1895	11 11 0		10 0 0	1 11 0
RICHMOND								
Agricultural College	10 000	Erection	Loans	1894		3 736 15 9	3,736 15 9	
RYLSTONE								
Court house		Repairs	Con Rev	,,	70 0 0		70 0 0	
Lock up	1,500	Erection	Loans	1895		290 0 0	290 0 0	
ROOKWOOD								
Benevolent Asylum		Additions		,,	163 0 7		163 0 7	
ROCKLEY								
Court and Watch House		Repairs		,,	6 5 0		6 5 0	
ROCKDALE								
Lock up	1,500	Erection		,,		22 1 6	22 1 6	
ROUSE HILL								
Police Station		Repairs		,,	17 13 4		17 13 4	
SPRINGWOOD								
Lock up		Cell		1894	126 0 0		126 0 0	
,,		Repairs		1895	2 0 0		2 0 0	
STOCKTON								
Police Station		,,		1894	38 10 0		38 10 0	
SINGLETON								
Court house		,,		,,	14 0 0		14 0 0	
Police Station		Furniture		1895	4 8 9			4 8 9
Lock up		Repairs		,,	1 12 6		1 12 6	
SOFALA								
Lock up		Furniture		1894	11 3 7			11 3 7
Court house		Repairs		1895	6 10 0		6 10 0	
STOCKINBINGAL								
Police Station		Stable		1894	95 10 0		95 10 0	
SWANSEA								
Police Station		Furniture		,,	3 13 7			3 13 7
SWAMP OAK								
Mining Office		,,		,,	30 0 0			30 0 0
Police Station		Portable Cell		,,	19 0 0		19 0 0	
SCONE								
Court house		Additions		,,	12 5 0		12 5 0	
SMITHFIELD								
Police Station		Repairs		,,	1 9 8		1 9 8	
STEWARTS BROOK								
Police Station		,, &c		,,	9 10 0		5 10 0	4 0 0
SHELLHARBOUR								
Court house		Additions		1895	7 19 0		7 19 0	
ST MARYS								
Lock up	210	,,		,,		177 18 0	177 18 0	
TIGHES HILL								
Police Station		Gas		1894	4 5 0		4 5 0	
TERRAWINGEE			Con Rev					
Police Station		Additions		,,		69 0 0	69 0 0	
TWEED RIVER								
Lighthouse		Repairs		,,	16 14 0		3 11 0	13 3 0
TENTERFIELD								
Post and Telegraph Office		,,		,,		487 7 0	487 7 0	
Court house		,,		,,	10 5 6		10 5 6	
Lock up		,,		1895	7 5 0		7 5 0	
TAMWORTH								
Police Buildings		Repairs, &c		1894	30 17 3		21 10 0	12 7 3
Post and Telegraph Office		,,		,,	262 7 0		262 7 0	
Court House		Additions		,,	463 3 3		428 3 0	34 0 3
Gaol		,, &c		,,	673 12 3		673 12 3	
Lands Office		Furniture		1895	6 14 2			6 14 2
TIMORA								
Post and Telegraph Office		Repairs		1894	10 12 6		10 12 6	
Court house		Alterations		,,	24 15 0		24 15 0	
Police Buildings		Additions		1895	217 3 0		217 3 0	
TUMBULGUM								
Police Station		Repairs		1894	6 6 1		6 6 1	
TAMBAR SPRINGS								
Police Station		,,		,,	30 0 0		30 0 0	
TUMUT								
Post and Telegraph Office	250	,,		1895		80 0 0	80 0 0	
Court house		,,		,,	1 0 0		1 0 0	
TUMBERUMBAH								
Court house		,,		,,	10 0 0		10 0 0	
TARRAWANGEF								
Court house		Furniture		,,	5 10 0			5 10 0
TRANGIE								
Court house		,,		,,	63 16 6			63 16 6
TINGHA								
Court house		,,		,,	9 13 1			9 13 1
TARCUTTA								
Police Station		Repairs		,,	9 10 0		9 10 0	
TRIAL BAY								
Prison		Furniture		,,	0 10 0			0 10 0
ULMARRA								
Police Station		Cell, &c		1894	14 4 6		10 4 0	4 0 6
ULLADULLA								
Police Station		Additions		,,	11 14 6		11 14 6	

RETURN OF PUBLIC WORKS, &c.—*continued.*

Work, and where situated	Estimated Cost	Whether Constructing or under Repair	Fund from which the Expenses defrayed	When Commenced	If Finished, actual amount of Expenditure	If Unfinished, amount of Expenditure to 30th June, 1895	Amount expended from 1st January, 1894, to 30th June, 1895	Furniture
COUNTRY—*continued*	£				£ s d	£ s d	£ s d	£ s d
URALLA								
Lock up		Repairs		1894	13 7 6		13 7 6	
Court house		,,		,,	113 10 6		113 10 6	
Post and Telegraph Office		,,		1895	47 4 6		47 4 6	
URANA								
Police Buildings		,,		1894	55 0 0		55 0 0	
Court house		,,		,,	0 16 0		0 16 0	
WOODBURN								
Court house		,,	Con Rev	,,	97 10 0		97 10 0	
WOODBURN SOUTH								
Police Station		,,		1895	14 10 0		14 10 0	
WOLLONGONG								
Gaol		,,		1894	10 2 8		8 7 8	1 15 0
,,		Additions		,,	45 12 6		45 12 6	
Court house		Repairs		,,	8 3 0		8 3 0	
Police Station		,,		,,	57 3 0		57 3 0	
WARREN								
Lands Office		Furniture		,,	3 6 9			3 6 9
Police Station	800	Additions	Loans	1895		617 13 10	617 13 10	
WARIALDA								
Court house	350	Repairs		1894		249 15 0	249 15 0	
Lock up		Repairs &c		,,	93 0 6		85 9 0	7 11 6
Post and Telegraph Office		Erection		1895		6 0 0	6 0 0	
WAGGA WAGGA			Con					
Court house		Repairs	Rev	1894	6 18 0		6 18 0	
Gaol		Repairs, &c		,,	10 4 2		4 16 0	5 8 2
Post and Telegraph Office		Repairs		,,	9 15 0		9 15 0	
Police Station		Furniture		,,	4 9 6			4 9 6
Experimental Farm		Additions	Loans	,,	454 9 0		454 9 0	
Lands and Survey Office		Repairs		,,	8 4 3		8 4 3	
Lock up		,,		,,	4 16 0		4 16 0	
Public Buildings		,,		1895	9 12 0		9 12 0	
WINDSOR								
Gaol		Additions		1894	33 8 6		33 8 6	
Police Barracks		Repairs		,,	24 7 10		24 7 10	
Volunteer ,,		,,		1895	149 17 6		149 17 6	
WILCANNIA								
Lock up		Repairs, &c		1894	53 17 5		23 3 6	30 13 11
,, and Gaol	2,000	Additions		,,		503 9 0	503 9 0	
Police Station		Repairs		,,	99 1 6		99 1 6	
Court house		Repairs, &c		,,	6 14 6		0 10 6	6 4 0
Post and Telegraph Office		Erection		1895	100 13 3		100 13 3	
WELLINGTON								
Gaol		Repairs &c		1894	2 0 9		0 3 0	1 17 9
Court house		Furniture		1895	1 2 6			1 2 6
WENTWORTH								
Custom house		Repairs		1894	8 17 0		8 17 0	
Post and Telegraph Office		Additions		,,	8 8 6		8 8 6	
Court house		Repairs		,,	7 10 6		3 6 6	4 4 0
Gaol		,,		,,	130 3 3		130 3 3	
WANAARING								
Lock up		Additions		,,	12 10 0		12 10 0	
Police Station		Furniture		,,	4 0 1			4 0 1
WAPATAH								
Lock up		Additions		,,	9 0 0		9 0 0	
Post and Telegraph Office		Repairs		,,	6 10 0		6 10 0	
Police Station		,,		1895	6 5 0		6 5 0	
WHITE CLIFFS								
Police Station		Cell		1894	8 5 0		8 5 0	
WOMBLIAN CAVES		Alterations		,,	7 15 0		7 15 0	
WOLLOMBI								
Court house		Furniture		,,	7 13 6			7 13 6
WICKHAM								
Police Station		,,		,,	10 3 4			10 3 4
Post and Telegraph Office		Repairs, &c		,,	1 8 1		0 7 6	1 0 7
WOLLAR								
Court house		Furniture		,,	11 7 10			11 7 10
WOODENBONG			Con					
Police Station		Additions	Rev	,,	9 10 0		9 10 0	
WYALONG								
Lock up		Cell		,,	164 11 5		110 2 10	54 8 7
Court house		Erection		,,	397 18 7		368 11 0	29 7 7
,,		Fencing		,,	55 0 0		55 0 0	
WALCHA								
Police Station		Repairs		1895	4 14 7		4 14 7	
WOLUMLA								
Court house		Furniture		,,	33 14 8			33 14 8
WILSON'S DOWNFALL								
Police Station		Repairs		,,	8 2 11		8 2 11	
WERRIS CREEK								
Lock up		,,		,,	1 7 1		1 7 1	
WALGUNDRIE								
Police Station		,,		,,	2 12 0		2 12 0	
WYNDHAM								
Court house		Furniture		,,	1 10 0			1 10 0
WOLLONGBAR								
Experimental Farm		,,		,,	8 7 3			8 7 3
WINDEYER								
Court house		Additions		,,	7 10 0		7 10 0	
YASS								
Gaol		Repairs, &c		1894	5 17 1		0 18 9	4 18 4
YOUNG								
Court house		,,		,,	14 9 6		14 9 6	
Post and Telegraph Office		,,		,,	0 4 0		0 4 0	
Gaol		,,		,,	135 9 1		126 5 11	9 3 2
,,		Additions		,,	71 15 0		71 15 0	
,, Police Station		Repairs, &c		1895	2 5 0		2 5 0	
YANTABULLA								
Court house		Furniture		1894	19 18 4			19 18 4
YAMBA								
Police Barracks		Repairs		,,	63 9 8		63 9 8	
Public Buildings generally				,,	4,030 13 7		4,030 13 7	
Advertising				,,	227 8 9		227 8 9	
Fuel and Light				,,	1,957 15 3		1,957 15 3	
Ballot boxes				,,	450 9 2		450 9 2	
Roads, Streets and Bridges		Gas		,,	102 19 6		102 19 6	
Lighting Government Lamps				,,	539 17 3		539 17 3	
Incidental Expenses				,,	149 12 11		149 12 11	
					269,115 11 7	66,611 17 11	192,109 7 7	14,878 8 9

Land Valuation Branch.

(XVI.)

REPORT OF THE GOVERNMENT LAND VALUER.

Sydney, 26 November, 1895.

I HAVE the honor to furnish a return relating to services under this Branch from the 1st January, 1894 to the 30th June, 1895.

During that period the following claims, valuations, and estimates were made.

1. Claims for land for Railway and Tramway purposes	£15,174	17	2
Other purposes	122,153	5	1
	£137,328	2	3
2. Valuations of Resumptions for Railway and Tramway purposes	£32,169	4	7
Other purposes	42,722	13	2
	£74,891	17	9
3. Estimates of Value of proposed Resumptions	£1,338,313	8	4

4. Report upon the Shea's Creek Works (no report herewith).

J. B. THOMPSON,
Land Valuer.

The Under Secretary for Works.

(XVII.)

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAYS AND TRAMWAYS.

(Report by Engineer-in-Chief for Railway Construction, during his visit to Europe and America, on.)

Ordered by the Legislative Assembly to be printed, 1 *May*, 1895.

NOTE.—This paper may be obtained at the Government Printing Office.

(XVIII.)

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

RAILWAYS.

(Report by the Engineer-in-Chief for Railway Construction on "Some differences in Railway Practice in Australia, England, and America, with special reference to Economy of Construction.")

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

NOTE.—This paper may be obtained at the Government Printing Office.

(XIX.)

1894-5.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

ELECTRIC AND OTHER TRAMWAYS.

(Minute of the Engineer-in-Chief for Railway Construction, on.)

Ordered by the Legislative Assembly to be printed, 15 *May*, 1895.

NOTE.—This paper may be obtained at the Government Printing Office.

[2 diagrams.]

Sydney: Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

ELEVENTH GENERAL REPORT,

TOGETHER WITH

RETURNS GIVING A RECORD OF THE COMMITTEE'S INQUIRIES

AND

MINUTES OF PROCEEDINGS.

Presented to Parliament in accordance with the provisions of the Public Works Act, 51 Vic. No. 37.

Printed under No. 3 *Report from Printing Committee,* 4 *June,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

[2s.] *45—A 1896.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable Frederick Thomas Humphery, Vice-Chairman.
The Honorable John Davies, C.M.G.
The Honorable James Hoskins.
The Honorable Charles James Roberts, C.M.G.
The Honorable William Joseph Trickett.

LEGISLATIVE ASSEMBLY.

Thomas Thomson Ewing, Esquire, Chairman.
Henry Clarke, Esquire.
Charles Alfred Lee, Esquire.
John Lionel Fegan, Esquire.
*Angus Cameron, Esquire.
Thomas Henry Hassall, Esquire.
George Black, Esquire.
Francis Augustus Wright, Esquire.

[*Soon after the appointment of the Sixth Committee, Angus Cameron, Esquire, died, and the vacancy thus created has not yet been filled owing to Parliament being in recess.]

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

ELEVENTH GENERAL REPORT.

To His Excellency the Right Honorable HENRY ROBERT, VISCOUNT HAMPDEN, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

The Parliamentary Standing Committee on Public Works, appointed during the last Session of Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, and the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, have the honor to submit, in accordance with clause 8 of the Public Works Act, the following General Report of their proceedings:—

Appointment of the Committee.

1. The Committee—the sixth since the passing of the Public Works Act—were appointed on the 11th December, 1895, and held their first meeting on 12th December. Thomas Thomson Ewing, Esquire, was elected to the position of Chairman.

Decease of a member of the Committee.

2. Shortly after the appointment of the Committee a vacancy was caused in consequence of the death of Angus Cameron, Esquire. On the motion of Mr. Humphery, seconded by Mr. Davies, the following resolution was passed unanimously:—"That the members of the Committee, in recording a vacancy by reason of the decease of Mr. Angus Cameron, M.L.A., desire to express their sense of the loss sustained by Mr. Cameron's death, and also to convey to his family deep sympathy with them in their sudden bereavement." Mr. Cameron's seat on the Committee has not been filled, Parliament having continued in recess since his demise.

Death of Sir Henry Parkes, G.C.M.G.

3. On the occasion of the funeral of the late Sir Henry Parkes, G.C.M.G., the Committee adjourned their meeting as a mark of respect to the deceased statesman, who was the author of the Public Works Act of 1888. The following resolution was, on the motion of Mr. Trickett, seconded by Mr. Davies, passed unanimously, and subsequently recorded in the Committee's Minutes of Proceedings:—(1.) "That the members of the Parliamentary Standing Committee on Public Works desire to express their sincere regret at the decease of the late Sir Henry Parkes, G.C.M.G., and also to convey to Lady Parkes and family deep sympathy in their bereavement." (2.) "That a copy of the foregoing resolution be forwarded to Lady Parkes."

Works referred to the Committee by the Legislative Assembly.

4. The following proposed works have been referred to the Committee by the Legislative Assembly for inquiry and report:—

	Estimated Cost.
Deviation at Locksley, Great Western Railway ...	£47,500
Water Supply for the Town of Tamworth	32,824
Railway from Nevertire to Warren (without land resumption)	32,730
Railway from Tamworth to Manilla (without land resumption)	72,150
Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street	130,500
Erection of Buildings at Rookwood for Infirm and Destitute Persons (including sewage, not provided for in the Departmental estimate, £9,935) ...	118,285
Additions to the Treasury Building	22,500
Construction of Locks and Weirs on the River Darling	121,100
Total	£577,589

The Committee's recommendations.

5. Of the eight works referred to them by the Legislative Assembly, the Committee have completed their inquiries with regard to four, upon which the following action has been taken :—

(1.) Deviation at Locksley, Great Western Railway.—The Deviation at Locksley, on the Great Western Railway, 129 miles 65 chains from Sydney—recommended by the Railway Commissioners in accordance with their policy of reducing grades with a view to greater convenience and economy in the working of the railway traffic—was regarded by the Committee as a necessary work, and one that should be carried out with as little delay as possible.

(2.) Water Supply for the Town of Tamworth.—With regard to the proposed Water Supply for the Town of Tamworth, the Committee approved of the main work, but suggested certain alterations. The proposal, as submitted by the Department, limited the capacity of the storage reservoir to 35,000,000 gallons, but the Committee deemed it expedient to recommend that the reservoir be made sufficiently large to impound 50,000,000 gallons of water. The Committee also recommended that an area of not less than 50 acres be resumed at the site of the proposed storage reservoir; that the Crown lands within the catchment area of the proposed water supply should be at once reserved; and that the Department of Lands, in measuring lands held under conditional lease, should exercise its power and excise such portions of land as may be required for the present or future storage of water.

(3.) Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.—The Committee affirmed the expediency of carrying out this proposed work, considering that the probable passenger traffic fully justifies its construction.

(4.) Erection of Buildings at Rookwood for Infirm and Destitute Persons.—Under the Departmental proposal it was intended to locate in one central establishment at Rookwood, at a cost, including sewerage, of £118,285, the whole of the occupants of the Benevolent Asylums situated at Liverpool, Glenfield, and in George and Macquarie Streets, Parramatta. The Committee recommended that the inmates of the Asylums in Macquarie, George, and Harris Streets, Parramatta, be removed as speedily as possible, that the healthy destitute be housed at Rookwood and Liverpool; and that the chronic and acute sick be housed on available Crown lands near Campbelltown, on a site selected by the Committee. The principal facts which served to guide the Committee in arriving at their decision were the unsuitableness of the site at Rookwood, the possibility of contaminating the Sydney water supply, and the small outlay necessary to make the Liverpool Asylum fit to accommodate a proportion of the aged poor. Had the Committee not been influenced by the existence at Rookwood of housing accommodation for some 500 people, they would have rejected the Departmental proposal in its entirety. The estimated cost of the scheme recommended by the Committee, which makes provision for the treatment of 3,000 infirm and destitute persons, amounts to £62,900; the cost of the Departmental scheme for accommodating 3,300 persons, including sewage, was estimated at £118,285, showing a saving of £55,385 if the Committee's recommendations be adopted.

Other proposed works before the Committee.

6. In regard to three other proposed works, the Committee have carried their investigations as far as possible with a view to reporting to Parliament. They are :—

(1.) Railway from Nevertire to Warren.
(2.) Railway from Tamworth to Manilla.
(3.) Additions to the Treasury Building.

(1.) Railway from Nevertire to Warren.—The inquiry into this proposed railway is almost completed, and the Committee's Report will be ready for presentation to the Legislative Assembly within a few days.

(2.) Railway from Tamworth to Manilla.—The Committee have concluded their investigation into this proposed work. The route as submitted to them necessitated the expenditure of a considerable sum of money for land resumption and severance. In view of this circumstance the Sectional Committee selected a new route which, if adopted, will, it is believed, render such outlay for land resumption and severance unnecessary. The plans with regard to the exact location of the suggested deviation are not yet to hand, further surveys being necessary. On receipt of this information the Committee will submit their Report to the Legislative Assembly.

(3.) Additions to the Treasury Building.—With regard to this proposed work the inquiry is nearly completed. The Report would have been submitted on the assembling of Parliament had the Committee been able to obtain some requisite information from the Public Service Board. Directly this information is forthcoming the Committee will report to the Legislative Assembly.

Work not inquired into.

7. The only work not inquired into by the Committee is the—

Construction of six Locks and Weirs on the River Darling, from Stony Point to Brewarrina, the estimated cost of which is stated at £121,100.

It is intended to proceed with this inquiry at an early date.

Summary of the work of all the Committees appointed under the Act.

8. The six Committees appointed under the Act have had seventy-four works referred to them (six of them twice, and one of them referred and subsequently withdrawn by resolution of the Legislative Assembly), estimated by the Department of Public Works to cost, allowing for the second references, £12,409,720. Of these, they have passed twenty-five as submitted to them, and twenty-three with modifications, and they have negatived twenty-one. One, after being partly considered, was withdrawn from the Committee to whom it had been referred by resolution of the Legislative Assembly, to be afterwards resubmitted in a more complete form. In connection with these seventy-four works the difference between the Departmental estimates of cost and the cost shown in the Committees' recommendations represents a reduction amounting to £3,660,627.

Returns containing a record of the Committees' inquiries, and the present Committee's Minutes of Proceedings.

9. Attached to this Report, and completed to the present date, are the returns which have been published with previous General Reports, and which contain a record of the whole of the works inquired into by the present Committee and by previous Committees that have been appointed under the "Public Works Act"; and also a copy of the Committee's Minutes of Proceedings.

THOS. EWING,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 8 May, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RECORD OF INQUIRIES.

LIST of Proposed Public Works inquired into by the several Committees, with the results of their inquiries, from 27 August, 1888, the date of the first sitting of the first Committee appointed under the Act, to 8 May, 1896.

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
1888.		£	£	£	£	
4 Sept. to 22 Oct.	Improvements to the Circular Quay.	120,000	125,000	5,000	.....	The Committee recommended an alteration in the plan of these improvements, by which the total estimated cost would be increased to £125,000.
26 Sept. to 22 Oct.	Storage reservoir at Potts' Hill, and second line of pipes to Crown-street.	120,000 / 165,000	285,000	.....	.....	Recommended as proposed.
13 Sept. to 22 Oct.	New Central Police Court	48,000	48,000	.....	....	Recommended as proposed.
4 Oct. to 22 Oct.	Drainage works, Manly...	34,114	22,000	.....	12,114	The Committee recommended the adoption of a modified plan of these drainage works, by which the total estimated cost would not exceed £22,000.
10 Oct. to 22 Oct.	Drainage works, North Shore.	77,062	107,000	29,938	.....	The Committee recommended the adoption of the complete scheme proposed in relation to this work, and the estimated cost of which, as shown by the evidence, is £107,000.
31 Aug. to 22 Oct.	Harbour improvements at Newcastle.	112,000	112,000	.....	... .	Recommended as proposed.
19 Sept. to 22 Oct.	Wharfage acccommodation, Woolloomooloo Bay.	42,000	.....	.....	42,000	The Committee were of opinion that the proposed expenditure was not justified either by the requirements in connection with the wharfage accommodation of the port, or by the nature of the proposal if regarded as a scheme for the improvement of a very valuable Government property.
16 Nov. to 1889. 11 Jan.	Bridge at the Spit, Middle Harbour.	62,000	.....	.....	62,000	The Committee decided that the proposed expenditure was not justified by the evidence, and that a steam-punt would meet the requirements of the district in the vicinity of the proposed work for some years to come.
1888. 7 Dec. to 1889. 27 Aug.	Drainage works for the Western Suburbs.	830,304	830,304	.....	....	Recommended as proposed.
26 June to 30 Sept.	Improvements to the entrance of the Richmond River.	326,000	326,000	.....	.....	The Committee recommended that the proposed works be carried out in a certain order, so that the results from the works first constructed might be ascertained before others were proceeded with.
9 Oct. to 11 Dec.	Railway to connect North Shore Railway with Port Jackson, at Milson's Point.*	262,000	.....	.....	262,000	The Committee considered, for various reasons stated in their report on the subject, that the work as proposed should not be carried out.
29 Aug. to 12 Dec.	Railway from Culcairn to Corowa.	197,300 (or £4,184 per mile.)	164,500 (or £3,500 per mile.)	.....	32,800	The Committee were of opinion that this line should be constructed at a cost not exceeding £3,500 per mile.
22 Aug. to 19 Dec.	Railway from Goulburn to Crookwell.	198,300 (or £5,984 per mile.)	148,500 (or £4,500 per mile.)	.....	49,800	The Committee considered that the cost of this railway should not exceed £4,500 per mile, and that a saving should also be effected by utilizing a certain portion of the present main line instead of taking the proposed railway through a part of the city of Goulburn.
1890. 22 Jan. to 6 Feb.	Dredge and plant for Sydney Harbour.	30,000	.....	.....	30,000	The evidence showed that this class of dredge was not required.
1889. 25 Sept. to 1890. 18 Feb.	Railway from Nyngan to Cobar.	207,360	207,360	.....	... .	The Committee recommended the construction of this railway as part of a line which should be extended to Wilcannia and Broken Hill.
14 Jan. to 11 Feb.	Offices for the Board of Water Supply and Sewerage.	50,000	50,000	.....	.....	Recommended as proposed.
14 Jan. to 6 Feb.	Reticulation of the Western Suburbs Drainage Scheme.	713,592	713,592	.....	.....	Recommended as proposed.
14 Jan. to 11 Feb.	Extension of Sydney Water Supply to Southern Suburbs — Hurstville and Rockdale.	66,000	.....	.....	66,000	This expenditure was rendered unnecessary by reason of a temporary water-supply scheme being sufficient to meet requirements for some years.
19 Nov. to 2 April.	Railway from Marrickville to the Burwood Road.	90,250	90,250	.....	.....	Recommended as proposed.
	Carried forward.....£	3,751,282	3,229,506	34,938	556,714	

LIST of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
	Brought forward ...£	3,751,282	3,229,506	34,938	556,714	
1890. 23 Oct. to 24 April.	Improvements to the entrance of the Clarence River.	580,900	211,900	.....	369,000	In this case the Committee recommended the construction of only a portion of the works proposed, as they were of opinion that when this portion had been constructed it might be found that the remainder would not be required.
31 Oct. to 15 April.	Breakwater at Byron Bay.	241,723	241,723	.....	.. ..	The original estimate for this work was £162,000; the increase was due to a difficulty in obtaining stone.
4 Dec. to 24 April.	Railway from Kiama to Nowra.	381,390	381,390	.....	.....	In this case there was an original estimate of £441,663. The reduction was due to an amended estimate made by the Acting Engineer-in-Chief for Railways since the railway was referred to the Committee.
12 Nov. to 24 April.	Railway from Grafton to the Tweed.	1,728,100	800,000	.....	928,100	The Committee recommended that this railway should be constructed from Lismore to Murwillumbah, instead of from Grafton to Murwillumbah, the Committee's recommendation involving a length of about 60½ miles as compared with 140 miles 76 chains, the length of the line as referred to them by the Legislative Assembly.
15 Jan. to 24 April.	Railway from Cootamundra to Temora.	138,000 (or £3,656 per mile.)	125,400 (or £3,300 per mile.)	.....	12,600	The Committee considered that the cost of constructing this railway should not exceed £3,300 per mile.
23 Jan. to 24 April	Railway from Moss Vale to Robertson.	84,900	.....	.....	84,900	The Committee negatived this proposal because they considered another route, described in their report, was preferable.
23 Jan. to 25 Mar.	Railway from Mudgee to Gulgong.	109,330	.....	.....	109,330	The Committee decided against this work, on the ground that any extension of the Mudgee Railway should form part of a more comprehensive proposal, the consideration of which should be deferred until after the suggestion for the connection of the Northern and Western systems, by a line between Dubbo and Werris Creek, has been dealt with.
12 Feb. to 24 April.	Bridge over Tarban Creek, Parramatta River.	26,000	.....	....	26,000	The Committee considered this bridge to be unnecessary.
20 Feb. to 15 April.	Bridge over the Hunter River, at Jerry's Plains.	20,000	....	.. ..	20,000	The Committee considered that a less expensive bridge would be sufficient to meet requirements.
25 Feb. to 24 April	Bridge to connect Bullock Island with the mainland at Newcastle.	33,000	.. ..	.....	33,000	The Committee considered that this proposed expenditure was premature, pending certain reclamation works.
12 Feb. to 21 May.	Iron Bridge at Cowra ...	26,537	26,537	.....	.....	The original proposal represented an expenditure of £69,971, which amount was afterwards reduced to £26,537, as the result of a revision of the system of bridge-building in the Colony.
22 Jan. to 21 May.	Railway from Molong to Parkes and Forbes.	433,000	433,000	..... .	..... .	Recommended as proposed.
28 May to 8 July.	Hospital for the Insane upon the Kenmore Estate, near Goulburn.*	120,000	.....	.....	120,000	This proposed work, after being partly considered, was withdrawn from the Committee by resolution of the Assembly.
28 May to 21 Aug.	Railway to connect the North Shore Railway with the deep waters of Port Jackson, at Milson's Point.* (Second Reference).	231,156	231,156	.....	.....	This proposal was before the Committee on a previous occasion (estimated cost, £262,000), when it was negatived; but having been referred to the Committee for further consideration, and circumstances appearing in the second inquiry which justified the construction of the railway, the Committee approved of the proposed work.
10 Dec. to 13 May, 1891.	Hospital Buildings, Macquarie-street.	140,000	56,000	.....	84,000	In this case, two sets of plans for the buildings were submitted to the Committee, one representing a design that was estimated to cost £140,000, and the other a design to cost £56,000, and the Committee approved of the latter.
1891. 11 Feb. to 25 Mar.	College for the Training of Teachers of Public Schools.	37,500	37,500	.....	.. ..	Recommended as proposed.
1 Feb. to 21 April.	Extension of the Kiama to Nowra Railway into the town of Nowra.	75,000	75,000	.....	.....	Recommended as proposed.
24 Feb. to 14 May.	Railway from Cobar to Cockburn.	1,168,000	1,018,000	.....	150,000	The Committee recommended the construction of this railway as far as Broken Hill only, which would reduce the proposed expenditure by £150,000.
22 Jan., 1890, to 19 May, 1891.	Cable Tramway from King-st., *via* William-street, to Ocean-street.	80,000	80,000	.....	....	Recommended as proposed.
25 Nov., 1890, to 3 June, 1891.	Cable Tramway. through George, Pitt, and Harris Streets, Sydney.	120,000	....	.....	120,000	The Committee considered that it was not expedient at present, for reasons stated in their report, that this tramway should be constructed.
	Carried forward ..... £	9,525,818	6,947,112	34,938	2,613,644	

LIST of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1892.	Brought forward .. £	9,525,818	6,947,112	34,938	2,613,644	
5 May to 2 June.	Improvements at Darling Island.	142,000	.....	.....	142,000	The Committee considered that the proposed works might be postponed for the present without inconvenience, and that a more suitable design might be submitted.
7 June to 12 July.	Stormwater sewers discharging into Johnstone's Bay.	51,352	51,352	.....	....	Recommended as proposed.
15 June to 4 Aug.	Reservoir at Centennial Park for Sydney Water Supply.	83,000	83,000	.....	.....	Recommended with an alteration of site.
14 July to 24 Aug.	Water Supply for Wollongong and the surrounding districts.	66,000	30,000	.....	36,000	The Committee found that the Water Supply proposed for the surrounding districts was not needed, and that the estimate of cost for supplying Wollongong might be reduced to £30,000.
28 July to 24 Aug.	Second pipe-line from Walka to Buttai, for Hunter River District Water Supply.	50,000	50,000	.....	.....	Recommended as proposed.
26 July to 9 Aug.	Sewerage works at Cottage Creek.	25,000	13,000	.....	12,000	The amount of £25,000 provided for a covered sewer; but the Committee found that a cover was not necessary at present, and that by constructing an open sewer the cost could be reduced by £12,000.
21 April, 1891, to 27 May, 1892.	Railway from Glen Innes to Inverell.*	427,400	.....	.....	427,400	The evidence in this case showed that the estimated cost of constructing the railway was excessive, and indicated the probability of a serious annual loss in the working of the line. In addition to this, the Committee were not as fully informed as desirable with regard to connecting Inverell not only with the Great Northern Railway but with the coast, a matter of considerable importance in the inquiry.
31 May to 18 Aug.	Railway from Jerilderie to Deniliquin.	148,000	....	.. ..	148,000	The Committee were of opinion that the consideration of this proposed work should be postponed until it should be determined by Parliament as a matter of public policy to purchase the Deniliquin to Moama Railway.
12 July to 24 Aug.	Lunatic Asylum at Kenmore, near Goulburn.* (Second Reference).	150,000	150,000	.....	.....	Recommended as proposed.
14 June to 28 Sept.	Railway from Grafton to Lismore.	662,000 (or £8,000 per mile.)	108,000 (or £6,000 per mile.)	.....	554,000	The Committee decided that, for the present, only the Lismore to Casino section of the proposed railway should be constructed, that the cost should not exceed £6,000 per mile, and that the betterment principle be applied to the land to be served by the proposed line.
10 July to 26 Oct.	Railway from Eden to Bega.	564,000 (or £15,350 per mile.)	.....	.....	564,000	The Committee considered that the present resources of the district did not warrant the construction of such an expensive line, but they were of opinion that a cheaply constructed railway might be favorably considered.
22 June to 4 Oct.	Sewerage Works for Parramatta.*	75,926	.....	.....	75,926	The Committee were of opinion that the sewage farm included in the scheme was too small for the purpose, and that the sewage should be dealt with by precipitation and filtration or other effective modern process at a proposed pumping station at Clay Cliff Creek.
12 Oct. to 21 Dec.	Water Supply for Tamworth.	22,500	22,500	.....	.....	Recommended as proposed, with a provision as to the quantity of water obtainable, and the resumption of land surrounding the well in the drift forming the source of supply.
14 Sept. to 16 Nov.	Water Supply for Lithgow	15,000	15,000	.....	.....	Recommended as proposed.
15 Sept. to 16 Nov.	Water Supply for Armidale.	43,500	43,500	.....	.....	Recommended as proposed.
17 Nov. to 10 Jan. 1893.	Railway from Glen Innes to Inverell.* (Second Reference).	421,400 (or £7,975 per mile).	369,862 (or £7,000 per mile).	.....	51,538	The Committee considered it expedient this railway should be constructed, provided that the cost did not exceed £7,000 per mile, that special local rates were charged until the railway paid working expenses and interest on cost of construction, and that the betterment principle was applied to the land served by the railway.
14 Feb. to 8 Mar.	Waterworks for the town of Junee.	45,000	45,000	.....	.....	The Committee recommended that these works should be carried out, conditionally upon the Railway Commissioners undertaking to enter into an agreement for a period of not less than ten years to pay a minimum of £1,900 per annum for water supplied for railway purposes at Junee and Bethungra.
14 Nov., 1893, to 11 Jan., 1894.	Railway from Narrabri to Moree.	153,000	153,000	.....	.....	Recommended as proposed, with the condition that the work be not undertaken until a Betterment Act is passed.
	Carried forward.....£	12,670,896	8,081,326	34,938	4,624,508	

11

LIST of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1894.	Brought forward ...£	12,670,896	8,081,326	34,938	4,624,508	
7 Feb. to 22 Mar.	Sewerage Works for Parramatta.* (Second reference.)	75,926	.....	.....	75,926	The Committee decided that it was not expedient the proposed works should be carried out, for the reasons that the scheme had not been adequately considered, and that, according to the evidence, Parramatta was neither willing nor able to pay the rate necessary to provide the interest on the expenditure, and did not want the proposed works.
6 Mar. to 16 April.	Deviation to avoid the Lithgow Zigzag.	181,072	.....	... .	181,072	The Committee were of opinion that as the professional evidence, as well as much of the evidence generally, indicated that the proposed deviation was not a matter of urgency it was not expedient the work should be carried out.
9 April, to 22 May.	Railway from Temora to Wyalong.*	104,430	.....	.....	104,430	The Committee were of opinion that the decision upon the proposal should be deferred for six months.
11 April, to 20 June.	Removal of Pyrmont and Glebe Island Bridges.*	296,500	.....	.....	296,500	The Committee recommended that when renewal becomes necessary the existing bridges at Darling Harbour and Glebe Island should be replaced by timber structures of a kind specified in their report, which report, however, in consequence of the sudden dissolution of Parliament was not presented to the Legislative Assembly.
3 Oct. to 14 Nov.	Removal of Pyrmont and Glebe Island Bridges.* (Second reference.)	296,500	82,500	.....	214,000	The Committee recommended that the Pyrmont Bridge be replaced by a timber bridge with steel span, to cost £82,500, and decided that the Glebe Island Bridge did not at present require renewal.
19 Dec. to 27 Feb., 1895.	Railway from Jerilderie to Berrigan.	43,543	43,543	.....	... .	The construction of this railway was recommended, with the condition that the estimated cost, £2,000 per mile, should include goods and grain sheds, engineering charges, and all contingencies.
7 Mar. to 10 May.	Railway from Parkes to Condobolin.	127,000	127,000	....	.....	In this inquiry the Committee, while considering it expedient the railway should be constructed, resolved that the cost should not exceed £2,100 per mile, including the cost of land resumptions.
17 May to 28 June.	Railway from Temora to Wyalong.* (Second reference.)	92,000	.....	... .	92,000	The Committee, in deciding against this proposed work, were of opinion that at the present time there is no justification for its construction, and the prospects of Wyalong's future are not such as to lead them to conclude that the line should be built in anticipation of what may be the condition of the gold-field and the district some years hence.
20 Mar. to 7 May.	Harbour Improvements at Newcastle.	141,000	141,000	.....	.....	In this inquiry the Committee recommended a modification of the works proposed by the Department and an additional work, the cost of the works as recommended by the Committee being about the same as that of the works proposed by the Department.
26 June, to 4 July.	Tramway from Woolwich to the Field of Mars Common.*	19,300	....	.....	19,300	This proposed work was referred to the Fifth Committee who, at the termination of their existence, had inquired partly into it. A motion in the Legislative Assembly to refer the proposal to the Sixth Committee was, however, negatived on 11 December, 1895.
12 Dec. to 14 Dec.	Deviation at Locksley, Great Western Railway.	47,500	47,500	.....	.....	The Committee considered this work to be an urgent and necessary one, and recommended that it be carried out without delay.
17 Dec. to 24 Jan. 1896.	Water Supply for the Town of Tamworth.	32,824	32,824	....	.....	The Committee recommended that this work be carried out, with the proviso that the capacity of the storage reservoir be increased from 35,000,000 to 50,000,000 gallons.
18 Mar. to 8 May.	Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.	130,500	130,500	....	.....	Recommended as proposed.
	Carried forward.....£	14,258,991	8,686,193	34,938	5,607,736	

LIST of Proposed Public Works inquired into by the Committee, &c.—*continued.*

Date of Inquiry.	Proposed Work.	Expenditure proposed by the Government.	Expenditure recommended by the Committee.	Amount in excess of that proposed.	Amount in reduction of that proposed.	Remarks.
		£	£	£	£	
1896.	Brought forward	14,258,991	8,686,193	34,938	5,607,736	
21 Jan. to 10 Mar.	Erection of Buildings at Rookwood for Infirm and Destitute Persons.	118,285	62,900	.....	55,385	The Committee decided that it was not expedient the proposed works should be carried out, deeming it inadvisable, for reasons stated in their Report, to concentrate the infirm and destitute at Rookwood. The Government estimate for the proposed buildings was £108,350 without, and £118,285 with, provision for sewage. The Committee recommended that the inmates of the Parramatta Asylums be removed, the healthy patients being housed at Rookwood and Liverpool, provision for the chronic and acute sick to be made on Crown lands near Campbelltown.
	£	14,377,276	8,749,093	34,938	5,663,121	

* The proposed works marked with an asterisk have been twice referred to the Committee, and in one case—that of the proposed Tramway from Woolwich to the Field of Mars Common—referred and then subsequently withdrawn, and together, as first referred, represent an estimated expenditure of £1,305,556, by which amount the total expenditure proposed by the Government and the amount in reduction of that proposed expenditure as shown by the result of the Committee's inquiries should be reduced. A further reduction should be made of £662,000, the proposed expenditure on the railway from Grafton to Lismore, that line being part of the railway originally proposed from Grafton to the Tweed. With these reductions the total expenditure proposed by the Government is £12,409,720, and the saving effected by the Committee, allowing for the £34,938 excess, £3,660,627.

WORKS not reported on.

	£
Railway from Nevertire to Warren	32,730
Railway from Tamworth to Manilla	72,150
Additions to the Treasury Building	22,500
Construction of Locks and Weirs on the River Darling	121,100

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

RETURN SHOWING THE COURSE OF THE COMMITTEES' INQUIRIES FROM THE REFERENCE OF THE WORKS TO THE ULTIMATE ACTION RESPECTING THEM.

FIRST COMMITTEE—FROM 12 JUNE, 1888, TO 22 OCTOBER, 1888.

MEMBERS OF THE COMMITTEE.

Legislative Council.

The Honorable John Lackey, Chairman.
The Honorable George Campbell.
The Honorable William Henry Suttor.
The Honorable James Watson.
The Honorable Frederick Thomas Humphery.

Legislative Assembly.

Joseph Palmer Abbott, Esquire, Vice-Chairman.
James Nixon Brunker, Esquire.*
Henry Copeland, Esquire.
Alexander Kethel, Esquire.
John Rendell Street, Esquire.
Thomas Michael Slattery, Esquire.
Jacob Garrard, Esquire.
Sydney Smith, Esquire.

* James Nixon Brunker, Esquire, by reason of his accepting the office of Minister for Lands, did not take his seat as a member of the Committee.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Wharfage Accommodation, Woolloomooloo Bay.	1888. 23 July..... ...	1888. 19 September	.....	... .	1888. Inquiry completed by Second Committee.	See Second Committee.	See Second Committee.	See Second Committee.
Improvements to the Circular Quay.	23 ,, ...	4 ,, ...	.....	.....	22 October ...	The Committee recommended an alteration in the plan of these improvements, by which the estimated total cost would be increased from £120,000 to £125,000.	Passed.	Legislative Assembly—11 April, 1889—Bill read third time. Legislative Council—24 April, 1889—Bill read third time; 30 April, 1889—Assent reported.
Storage Reservoir at Potts' Hill	23 ,, ...	26 ,, ...	.....	.....	22 ,, ...	Recommended as proposed.	Passed.	Legislative Assembly—17 May, 1889—Bill read third time. Legislative Council—30 May, 1889—Bill read third time; 5 June, 1889—Assent reported.

FIRST COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Second Pipe between Potts Hill and Crown-street.	1888. 23 July.....	1888. 26 September	.....	.....	1888. 22 October ..	Recommended as proposed.	Passed [Sydney Water Supply (Partial Reduplication) Bill].	Legislative Assembly—24 July, 1889—Bill read third time. Legislative Council—17 Sept., 1889—Bill read third time; 30 Sept., 1889—Assent reported.
Dredge and Plant for Sydney Harbour.	23 ,, ...	Dealt with by Third Committee.	.....	.....	....	See Third Committee.	See Third Committee.	See Third Committee.
Improvements to the Entrance of the Richmond River.	23 ,, ...	,, ,,	.. ..	.....	.. ..	,, ,,	,, ,,	,, ,,
Bridge at the Spit, Middle Harbour.	23 ,, ...	Dealt with by Second Committee.	.....	.....	....	See Second Committee.	See Second Committee.	See Second Committee.
New Central Police Court	23 ,, ...	13 September	.....	....	22 October ...	Recommended as proposed.	Passed.	Legislative Assembly—15 May, 1889—Bill read third time. Legislative Council—23 May, 1889—Bill read third time; 30 May, 1889—Assent reported.
Improvements to the Entrance of the Clarence River.	23 ,, ...	Dealt with by Third Committee.	.....	.....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Drainage Works, Manly	23 ,, ...	4 October ...	.....	.....	22 October ...	The Committee recommended the adoption of a modified plan of these drainage works, by which the estimated total cost would not exceed £22,000, or £12,114 less than the original estimate.	Passed.	Legislative Assembly—23 May, 1889—Bill read third time; 3 Sept., 1889—Bill finally passed. Legislative Council—20 June, 1889—Bill read third time; 12 Sept., 1889—Assent reported.
Drainage Works, North Shore	23 ,, ...	10 ,, ...	.....	.....	22 ,, ..	The Committee recommended the adoption of the complete scheme proposed in relation to this work, the estimated cost of which, as shown by the evidence, was £107,000.	Passed.	Legislative Assembly—17 April, 1889—Bill read third time; 15 May, 1889—Bill finally passed. Legislative Council—9 May, 1889—Bill read third time; 22 May, 1889—Assent reported.
Drainage Works for the Western Suburbs.	23 ,, ...	Dealt with by Second and Third Committees.	.....	.....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Harbour Improvements at Newcastle.	23 ,, ...	31 August ...	.. ..	....	22 October ...	Recommended as proposed.	Passed.	Legislative Assembly—11 April, 1889—Bill read third time. Legislative Council—24 April, 1889—Bill read third time; 30 April, 1889—Assent reported.

SECOND COMMITTEE—FROM 24 OCTOBER, 1888, TO 19 JANUARY, 1889.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable JOHN LACKEY, Chairman.
The Honorable GEORGE CAMPBELL.
The Honorable WILLIAM HENRY SUTTOR.
The Honorable JAMES WATSON.
The Honorable FREDERICK THOMAS HUMPHERY.

LEGISLATIVE ASSEMBLY.

JOSEPH PALMER ABBOTT, Esquire, Vice-Chairman.
HENRY COPELAND, Esquire.
JACOB GARRARD, Esquire.
ALEXANDER KETHEL, Esquire.
SYDNEY SMITH, Esquire.
THOMAS MICHAEL SLATTERY, Esquire.
JOHN RENDELL STREET, Esquire.
DANIEL O'CONNOR, Esquire.

Proposed Work	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Wharfage Accommodation, Woolloomooloo Bay.	1888. 23 July.....	1888. 19 September	.....	.....	1889. 10 January ...	The Committee were of opinion that the proposed expenditure was not justified either by the requirements in connection with the wharfage accommodation of the port, or by the nature of the proposal if regarded as a scheme for the improvement of a very valuable Government property.	Not dealt with.	....
Dredge and Plant for Sydney Harbour.	23 ,, ...	Dealt with by Third Committee.	.....	.....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Improvements to the Entrance of the Richmond River.	23 ,, ...	,, ,,	.....	.....	.....	,, ,,	,, ,,	,, ,,
Bridge at the Spit, Middle Harbour.	23 ,, ...	16 November	.....	....	11 January ...	The Committee decided that the proposed expenditure was not justified by the evidence, and that a steam-punt would meet the requirements of the district in the vicinity of the proposed work for some years to come.	Not dealt with.	....
Improvements to the entrance of the Clarence River.	23 ,, ...	Dealt with by Third Committee.	.....	....	.....	See Third Committee.	See Third Committee.	See Third Committee.
Drainage Works for the Western Suburbs.	23 ,, ...	7 December	.. ..	.....	Inquiry completed by Third Committee.	,, ,,	,, ,,	,, ,,

THIRD COMMITTEE—FROM 7 JUNE, 1889, TO 6 JUNE, 1891.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

* The Honorable JOHN LACKEY, Chairman.
The Honorable ANDREW GARRAN.
* The Honorable JAMES WATSON.
The Honorable FREDERICK THOMAS HUMPHERY.
The Honorable WILLIAM JOSEPH TRICKETT.
* The Honorable GEORGE HENRY COX.

LEGISLATIVE ASSEMBLY.

* JOSEPH PALMER ABBOTT, Esquire, Chairman.
* JACOB GARRARD, Esquire, Vice-Chairman.
HENRY COPELAND, Esquire.
JAMES EBENEZER TONKIN, Esquire.
WILLIAM SPRINGTHORPE DOWEL, Esquire.
* JOHN SUTHERLAND, Esquire.
EDWARD WILLIAM O'SULLIVAN, Esquire.
* JOHN HURLEY, Esquire.
* CHARLES ALFRED LEE, Esquire.
* WILLIAM MCCOURT, Esquire.
* JAMES PATRICK GARVAN, Esquire.

[* Shortly after the first meeting of the third Committee, John Sutherland, Esquire, died, and his place was filled by the appointment of Charles Alfred Lee, Esquire. Subsequently the Honorable James Watson resigned his seat on the Committee, and the Honorable George Henry Cox was appointed in his place. On 22nd October, 1890, Mr. Joseph Palmer Abbott, having been appointed Speaker of the Legislative Assembly, resigned his position as Chairman and member of the Committee. The Honorable John Lackey, who at that time was Vice-Chairman of the Committee, was appointed Chairman in Mr. Abbott's place, and Mr. Jacob Garrard was chosen as Vice-Chairman. Mr. William McCourt was appointed a member of the Committee on 16th July, 1890, in the place of Mr. John Hurley, whose seat became vacant by reason of his resignation from the Legislative Assembly; and Mr. James Patrick Garvan was appointed a member on the 6th November, 1890, in the room of Mr. Joseph Palmer Abbott.]

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Dredge and Plant for Sydney Harbour.	23 July, 1888	22 Jan., 1890	... .	....	6 Feb., 1890	The evidence showed that this class of dredge was not required.	Not dealt with.	....
Improvements to the Entrance of the Richmond River.	23 ,, ,,	26 June, 1889	.....	.....	30 Sept., 1889	The Committee recommended that the proposed works should be carried out in a certain order, so that the results from the works first constructed might be ascertained before others were proceeded with.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—28 Aug., 1890—Bill read third time; 3Sept., 1890—Assent reported.
Improvements to the Entrance of the Clarence River.	23 ,, ,,	23 Oct., ,,	14 Nov., 1889	28 Jan., 1890	2 April, 1890	In this case the Committee recommended the construction of only a portion of the works proposed, as they were of opinion that when this portion had been constructed it might be found that the remainder would not be required.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—17 Sept., 1890—Bill read third time; 1 Oct., 1890—Assent reported.
Drainage Works for the Western Suburbs.	23 ,, ,,	7 Dec., 1888	.....	.....	27 Aug., 1889	Recommended as proposed.	Passed.	Legislative Assembly—26 Sept., 1889—Bill read third time. Legislative Council—26 Sept., 1889—Bill read third time; 30 Sept., 1889—Assent reported.

THIRD COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Railway from Goulburn to Crookwell.	31 July, 1889	22 Aug., 1889	29 Aug., 1889	17 Sept., 1889	19 Dec., 1889	The Committee considered that the cost of this railway should not exceed £4,500 per mile, and that a saving should also be effected by utilizing a certain portion of the present main line instead of taking the propcsed railway through a part of the city of Goulburn.	Negatived by the Legislative Council.	Legislative Assembly—25 Sept., 1895—Bill read third time. Legislative Council—12 Nov., 1895—Second reading resolved in the negative.
Railway from Nyngan to Cobar	1 Aug., ,,	25 Sept., ,,	24 Sept., ,,	31 Oct., ,,	18 Feb., 1890	The Committee recommended the construction of this railway as part of a line which should be extended to Wilcannia and Broken Hill.	Passed.	Legislative Assembly—10 July, 1890—Bill read third time. Legislative Council—17 July, 1890—Bill read third time; 23 July, 1890—Assent reported.
Railway from Kiama to Nowra	1 ,, ,,	4 Dec., ,,	14 Jan., 1890	30 Jan., 1890	22 April, ,,	In this case there was an original estimate of £441,663. The amount recommended by the Committee was £381,390. The reduction was due to an amended estimate made by the Acting Engineer-in-Chief for Railways after the railway was referred to the Committee.	Passed.	Legislative Assembly—10 July, 1890—Bill read third time. Legislative Council—7 Aug., 1890—Bill read third time; 13 Aug., 1890—Assent reported.
Railway from Marrickville to the Burwood Road.	1 ,, ,,	19 Nov., ,,	....	.....	2 ,, ,,	Recommended as proposed.	Passed.	Legislative Assembly—11 Dec., 1890—Bill read third time. Legislative Council—18 Dec., 1890—Bill read third time; 19 May, 1891—Assent reported.
Railway from Culcairn to Corowa.	6 ,, ,,	29 Aug., ,,	29 Aug., 1889	11 Sept., 1889	12 Dec., 1889	The Committee were of opinion that this line should be constructed at a cost not exceeding £3,500 per mile.	Passed.	Legislative Assembly—10 July, 1890—Bill read third time. Legislative Council—31 July, 1890—Bill read third time; 6 Aug., 1890—Assent reported.
Breakwater at Byron Bay	6 ,, ,,	31 Oct., ,,	14 Nov., ,,	28 Jan., 1890	15 April, 1890	The original estimate for this work was £162,000. The estimate placed before the Committee, which they adopted in their recommendation, was £241,723. The increase was due to a difficulty in obtaining stone.	Negatived by the Legislative Council.	Legislative Assembly—17 July, 1890—Bill read third time. Legislative Council—15 Oct., 1890—Bill negatived in Council on motion, "That it be read the second time this day six months."
Railway to connect North Shore Railway with Port Jackson, at Milson's Point.	7 ,, ,,	9 ,, ,,	.....	... .	11 Dec., 1889	The Committee considered, for various reasons stated in their report on the subject, that the work as proposed should not be carried out.	See second reference.	See second reference.
Railway from Grafton to the Tweed.	27 Sept., ,,	12 Nov., ,,	14 Nov., ,,	28 Jan., ,,	15 April, 1890	The Committee recommended that this railway should be constructed from Lismore to Murwillumbah, instead of from Grafton to Murwillumbah, the Committee's recommendation involving a length of about 60½ miles as compared with 140 miles 76 chains, the length of the line as referred to them by the Legislative Assembly.	Passed.	Legislative Assembly—17 July, 1890—Bill (Lismore to the Tweed Railway Bill) read third time. Legislative Council—10 Sept., 1890—Bill read third time; 24 Sept., 1890—Assent reported.
Railway from Cootamundra to Temora.	27 ,, ,,	15 Jan., 1890	16 Jan., 1890	11 Feb., ,,	23 ,, ,,	The Committee considered that the cost of constructing this railway should not exceed £3,300 per mile.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—17 Sept., 1890—Bill read third time; 1 Oct., 1890—Assent reported.

THIRD COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Railway from Mudgee to Gulgong.	27 Sept., 1889	23 Jan., 1890	12 Mar., 1890	26 Mar., 1890	6 May, 1890	The Committee decided against this work on the ground that any extension of the Mudgee Railway should form part of a more comprehensive proposal, the consideration of which should be deferred until after the suggestion for the connection of the Northern and Western systems, by a line between Dubbo and Werris Creek, had been dealt with.	Not dealt with.	....
Railway from Moss Vale to Robertson.	1 Oct., ,,	23 ,, ,,	30 Jan., ,,	12 Feb., ,,	29 April, ,,	The Committee negatived this proposal because they considered another route, described in their report, was preferable.	,,	....
Railway from Molong to Parkes and Forbes.	1 ,, ,,	22 ,, ,,	12 Feb., ,,	19 Mar., ,,	21 May, ,,	Recommended as proposed.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—21 Aug., 1890—Bill read third time; 27 Aug., 1890—Assent reported.
Bridge over Tarban Creek, Parramatta River.	1 ,, ,,	12 Feb., ,,	.....	....	15 April, ,,	The Committee considered this bridge to be unnecessary.	Not dealt with.	....
Bridge over the Hunter River, at Jerry's Plains.	1 ,, ,,	20 ,, ,,	4 Mar.,	'1 Mar., ,,	15 ,, ,,	The Committee considered that a less expensive bridge would be sufficient to meet requirements.	,, ,,	.. ..
Bridge to connect Bullock Island with the Mainland at Newcastle.	1 ,, ,,	25 ,, ,,	4 ,, ,,	11 ,, ,,	29 ,,, ,,	The Committee considered that this proposed expenditure was premature, pending the carrying out of certain reclamation works.	,, ,,	... .
Iron Bridge at Cowra	1 ,, ,,	12 ,, ,	18 Feb., ,,	19 ,, ,,	21 May, ,,	The original proposal represented an expenditure of £69,971, which amount was afterwards reduced to £26,537, as the result of a revision of the system of bridge-building in the Colony, and the construction of the bridge at the reduced cost was recommended by the Committee.	Passed.	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—21 Aug., 1890—Bill read third time; 27 Aug., 1890—Assent reported.
Hospital for the Insane upon the Kenmore Estate, near Goulburn.	1 ,, ,,	28 May, ,,	.....	.....	Inquiry not completed.	This proposed work, after being partly considered, was withdrawn from the Committee by resolution of the Assembly.	Rescinded.	Legislative Assembly—2 July, 1890—Resolution passed rescinding previous resolution referring proposed work to the Committee.
Offices for Board of Water Supply and Sewerage.	1 ,, ,,	14 Jan., ,,	.....	.....	11 Feb., 1890	Recommended as proposed.	Passed.	Legislative Assembly—7 Nov., 1890—Bill read third time. Legislative Council—20 Nov., 1890—Bill read third time; 27 Nov., 1890—Assent reported.
Reticulation of Western Suburbs Drainage Scheme.	1 ,, ,,	14 ,, ,,	.....	.....	6 , ,,	,, ,,	,,	Legislative Assembly—23 July, 1890—Bill read third time. Legislative Council—24 Sept., 1890—Bill read third time; 8 Oct., 1890—Assent reported.

THIRD COMMITTEE—*continued.*

Proposed Work	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Extension of Sydney Water Supply to Southern Suburbs —Hurstville, Rockdale.	1 Oct., 1889	14 Jan., 1890	.....	.....	11 Feb., 1890	This expenditure was rendered unnecessary by reason of a temporary water-supply scheme being sufficient to meet requirements for some years.	Not dealt with.	.....
Cable Tramway from King-street, *via* William-street, to Ocean-street.	,, ,,	22 ,, ,,	.....	.....	2 June, 1891	Recommended as proposed.	Passed.	Legislative Assembly—8 March, 1892—Bill read third time. Legislative Council—10 March, 1892—Bill read third time; 17 March, 1892—Assent reported.
Cable Tramway through George, Pitt, and Harris Streets, Sydney	1 ,, ,,	25 Nov. ,,	.....	.....	4 ,, ,,	The Committee considered that it was not expedient, for reasons stated in their report, that this tramway should be constructed.	Not dealt with.	.....
Railway to connect North Shore Railway with the deep waters of Port Jackson, at Milson's Point (second reference).	8 May, 1890	28 May, ,,	.....	.....	21 Aug., 1890	This proposal was before the Committee on a previous occasion when it was negatived; but having been referred to the Committee for further consideration, and circumstances appearing in the second inquiry which justified the construction of the railway, the Committee approved of the proposed work.	Passed.	Legislative Assembly—12 Nov., 1890—Bill read third time. Legislative Council—20 Nov., 1890—Bill read third time; 27 Nov., 1890—Assent reported.
College for the Training of Teachers of Public Schools.	21 Nov., ,,	11 Feb., 1891	.....	.....	19 Mar., 1891	Recommended as proposed.	Not dealt with.	.....
Hospital Buildings, Macquarie-street.	3 Dec., ,,	10 Dec., 1890	.....	.....	12 May, ,,	In this case two sets of plans for the buildings were submitted to the Committee, one representing a design that was estimated to cost £140,000, and the other a design to cost £56,000, and the Committee approved of the latter.	Passed.	Legislative Assembly—9 March, 1892—Bill read third time. Legislative Council—17 March, 1892—Bill read third time; 29 March, 1892—Assent reported.
Railway from Cobar to Cockburn.	19 ,, ,,	24 Feb., 1891	.....	.....	14 ,, ,,	The Committee recommended the construction of this railway as far as Broken Hill only, thereby reducing the proposed expenditure (£1,168,000) by £150,000.	.....	Legislative Assembly—25 June, 1895—Motion to go into Committee to bring in a Bill.
Railway from Glen Innes to Inverell.	19 ,, ,,	21 April, ,,	23 April, 1891	2 June, 1891	See Fourth Committee.	See Fourth Committee.	See Fourth Committee.	.....
Extension of the Kiama to Nowra Railway into the town of Nowra.	19 ,, ,,	19 Feb., ,,	.....	.....	21 April, 1891	Recommended as proposed.	Not dealt with.	.....

FOURTH COMMITTEE—FROM 31 MARCH, 1892, TO 25 JUNE, 1894.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable WILLIAM HENRY SUTTOR, Vice-Chairman.
The Honorable JAMES HOSKINS.
The Honorable FREDERICK THOMAS HUMPHERY.
* The Honorable ANDREW GARRAN, LL.D.
The Honorable JOHN DAVIES, C.M.G.
* The Honorable WILLIAM JOSEPH TRICKETT.

LEGISLATIVE ASSEMBLY.

JACOB GARRARD, Esquire, Chairman.
THOMAS THOMSON EWING, Esquire.
WILLIAM CHANDOS WALL, Esquire.
WILLIAM MCCOURT, Esquire.
JOHN CASH NEILD, Esquire.
EDWARD WILLIAM O'SULLIVAN, Esquire.
CHARLES COLLINS, Esquire.
HENRY DAWSON, Esquire.

* The Honorable Andrew Garran, LL.D., on 5th October, 1892, resigned his seat as a member of the Committee, and on 12th October, 1892, the Honorable William Joseph Trickett was appointed to fill the vacancy.]

Proposed Work	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Improvements at Darling Island	29 Mar., 1892	5 May, 1892	....	.....	2 June, 1892	The Committee considered that the proposed works might be postponed for the present without inconvenience, and that a more suitable design might be submitted.	Not dealt with.	....
Water Supply for Tamworth...	29 ,, ,,	12 Oct., ,,	12 Oct., 1892	15 Nov., 1892	21 Dec., ,,	Recommended as proposed with a provision as to the quantity of water obtainable, and the resumption of land surrounding the well in the drift forming the source of supply.	Passed.	Legislative Assembly—29 May, 1894—Bill read third time. Legislative Council—31 May, 1894—Bill read third time; 5 June, 1894—Assent reported.
Storm-water Sewers discharging into Johnstone's Bay.	29 ,, ,,	7 June, ,,	.....	....	12 July, ,,	Recommended as proposed.	,,	Legislative Assembly—7 June, 1894—Bill read third time. Legislative Council—7 June, 1894—Bill read second time and passed through all stages; 7 Aug., 1894—Assent reported.
Reservoir at Centennial Park for Sydney Water Supply.	29 ,, ,,	15 ,, ,,	.....	....		Recommended with an alteration of site.	,,	Legislative Assembly—20 Dec., 1894—Bill read thir time. Legislative Council—21 Dec., 1894—Bill rea third time; 26 Feb., 1895—Assent reported.
Water Supply for Wollongong and the Surrounding Districts.	29 ,, ,,	14 July, ,,	.....	.....	4 Aug., ,, 24 ,, ,,	The Committee found that the Water Supply proposed for the surrounding districts was not needed, and that the estimate of cost for supplying Wollongong might be reduced to £30,000.	Not dealt with.	....
Second Pipe-line from Walka to Buttai, for Hunter River District Water Supply.	29 ,, ,,	28 ,, ,,	....	.....	16 ,, ,,	Recommended as proposed.	.. ..	Legislative Assembly—2 Oct., 1895—Bill read thir time. Legislative Council—12 Nov., 1895—Bill read third time; 9 Nov., 1895—Assent reported.
Sewerage Works at Cottage Creek.	29 ,, ,,	26 ,, ,,	.. ..	.....	9 ,, ,,	The estimated cost of this work was £25,000, which provided for a covered sewer; but the Committee found that a cover was not necessary, and that by constructing an open sewer the cost could be reduced by £12,000.	Passed.	Legislative Assembly—2 May, 1895—Bill read third time. Legislative Council—30 May, 1895—Bill read third time; 25 June, 1895—Assent reported.
Water Supply for Lithgow ..	29 ,, ,,	14 Sept., ,,	22 Oct., ,,	24 Oct., ,,	16 Nov., ,,	Recommended as proposed.	,,	Legislative Assembly—5 April, 1894—Bill read third time. Legislative Council—18 April, 1894—Bill read third time; 1 May, 1894—Assent reported.
Sewerage Works for Parramatta	29 ,, ,,	22 June, ,,	.....	....	4 Oct., ,,	The construction of this work the Committee did not recommend, as they were of opinion that the sewage farm included in the scheme was too small for the purpose, and that the sewage should be dealt with by precipitation and filtration, or other effective modern process, at a proposed pumping station at Clay Cliff Creek.	Not dealt with.	....

FOURTH COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Water Supply for Armidale ...	29 Mar., 1892	15 Sept., 1892	12 Oct., 1892	20 Oct., 1892	16 Nov., 1892	Recommended as proposed.	Passed.	Legislative Assembly—22 May, 1894—Bill read third time. Legislative Council—31 May, 1894—Bill read third time; 5 June, 1894—Assent reported.
Railway from Eden to Bega ...	29 ,, ,,	10 July, ,,	11 Aug., ,,	7 Sept., ,,	26 Oct., ,,	The Committee considered that the resources of the district did not warrant the construction of such an expensive line, but they were of opinion that a cheaply constructed railway might be favourably considered.	Not dealt with.	.....
Railway from Grafton to Lismore.	29 ,, ,,	14 June, ,,	15 June, ,,	10 Aug., ,,	28 Sept., ,,	The Committee decided that, for the present, only the Lismore to Casino section of the proposed railway should be constructed, that the cost should not exceed £6,000 per mile, and that the betterment principle be applied to the land to be served by the proposed line.	,, ,,	.....
Railway from Glen Innes to Inverell.	29 ,, ,,	6 April, ,,	23 April, 1891 (See Third Committee.)	2 June, 1891 (See Third Committee.)	27 May, ,,	The evidence in this case, which was partly inquired into by the Third Committee and partly by the Fourth Committee, showed that the estimated cost of constructing the railway was excessive, and indicated the probability of a serious annual loss in the working of the line. In addition to this, the Committee were not as fully informed as desirable with regard to connecting Inverell not only with the Great Northern Railway but with the coast, a matter of considerable importance in the inquiry. The Committee therefore did not recommend that the railway should be constructed.	See second reference.	.....
Railway from Jerilderie to Deniliquin.	29 ,, ,,	31 May, ,,	2 June, 1892	23 June, 1892	18 Aug., ,,	The Committee were of opinion that the consideration of this proposed work should be postponed until it should be determined by Parliament as a matter of public policy to purchase the Deniliquin to Moama Railway.	Not dealt with.	.....
Lunatic Asylum at Kenmore, near Goulburn (second reference).	31 ,, ,,	12 July, ,,	.....	.....	24 ,, ,,	Recommended as proposed.	Passed.	Legislative Assembly—18 October, 1894—Bill read third time. Legislative Council—1 November, 1894 Bill read third time; 14 November, 1894—Assent reported.
Railway from Glen Innes to Inverell (second reference).	27 Oct., ,,	17 Nov., ,,	23 Nov., ,,	13 Dec., ,,	10 Jan., 1893	The Committee considered it expedient this railway should be constructed, provided that the cost did not exceed £7,000 per mile, that special local rates were charged until the railway paid working expenses and interest on cost of construction, and that the betterment principle was applied to the land served by the railway.	Negatived.	Legislative Assembly—18 April, 1894—Bill read third time. Legislative Council—7 June 1894—Bill negatived on motion for second reading.
Waterworks for the town of Junee.	2 Feb., 1893	14 Feb., 1893	15 Feb., 1893	28 Feb., 1893	14 Mar., ,,	The Committee recommended that the proposed works should be carried out, conditionally on the Railway Commissioners entering into an agreement for a period of not less than ten years to pay a minimum of £1,900 per annum for water supplied for railway purposes at Junee and Bethungra.	Passed.	Legislative Assembly—4 April, 1894—Bill read third time. Legislative Council—18 April, 1894—Bill read third time; 1 May, 1894—Assent reported.

FOURTH COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Railway from Narrabri to Moree.	1 Nov., 1893	14 Nov., 1893	15 Nov., 1893	5 Dec., 1893	12 Jan., 1894	Recommended as proposed, with the condition that the work be not undertaken until a Betterment Act is passed.	Passed.	Legislative Assembly—20 March, 1895—Bill read third time. Legislative Council—4 April, 1895—Bill read third time; 23 April—Assent reported.
Sewerage Works for Parramatta (second reference).	1 Feb., 1894	7 Feb., 1894	.. ..	.....	22 Mar., ,,	The Committee decided that it was not expedient the proposed works should be carried out, for the reasons that the scheme had not been adequately considered, and that, according to the evidence, Parramatta was neither willing nor able to pay the rate necessary to provide the interest on the expenditure, and did not want the proposed works.	Not dealt with.	....
Deviation to avoid the Lithgow Zigzag.	25 Jan., ,,	6 Mar., ,,	.....	.....	16 April, ,,	The Committee were of opinion that as the professional evidence, as well as much of the evidence generally, indicated that the proposed deviation was not a matter of urgency, it was not expedient the work should be carried out.	,, ,,	....
Railway from Temora to Wyalong.	29 Mar., ,,	9 April, ,,	9 April, 1894	24 April, 1894	28 May, ,,	The Committee were of opinion that owing to the uncertainty of the permanence of the Wyalong goldfield, the decision upon the proposed Railway should be deferred for six months.	See Fifth Committee.	....
Removal of Pyrmont and Glebe Island Bridges.	25 Jan., ,,	11 ,, ,,	.....	....	25 June, ,,	The Committee negatived the Departmental scheme, but recommended that when renewal becomes necessary the existing bridges at Darling Harbour and Glebe Island should be replaced by timber structures of a kind specified in their report, which report, however, in consequence of the sudden dissolution of Parliament was not presented to the Legislative Assembly.	,, ,,	.....

FIFTH COMMITTEE—FROM 19 SEPTEMBER, 1894, TO 5 JULY, 1895.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable FREDERICK THOMAS HUMPHERY, Vice-Chairman.
The Honorable WILLIAM JOSEPH TRICKETT.
The Honorable JAMES HOSKINS.
The Honorable JOHN DAVIES, C.M.G.
The Honorable CHARLES JAMES ROBERTS, C.M.G.

LEGISLATIVE ASSEMBLY.

* VARNEY PARKES, Esquire, Chairman.
* THOMAS THOMSON EWING, Esquire, Chairman.
JAMES HAYES, Esquire.
ROBERT HENRY LEVIEN, Esquire.
JOHN MOORE CHANTER, Esquire.
CHARLES ALFRED LEE, Esquire.
JAMES GORMLY, Esquire.
EDMUND WILLIAM MOLESWORTH, Esquire.

* On 15th November, 1894, Varney Parkes, Esquire, resigned his seat on the Committee, and on 20th November, 1894, Thomas Thomson Ewing, Esquire, was elected Chairman.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Removal of Pyrmont and Glebe Island Bridges (second reference).	27 Sept., 1894	3 Oct., 1894	.....	.....	21 Nov., 1894	The Committee recommended that the Pyrmont Bridge be replaced by a timber bridge, with steel span, to cost £82,500; the Glebe Island Bridge, they decided, did not at present require renewal.	.....	Legislative Assembly—8 May, 1895—Motion in Committee to bring in a Bill.
Railway from Jerilderie to Berrigan.	18 Dec., ,,	19 Dec., ,,	8 Jan., 1895	22 Jan., 1895	28 Feb., 1895	The construction of this railway was recommended, with the condition that the estimated cost, £2,000 per mile, should include goods and grain sheds, engineering charges, and all contingencies.	Passed.	Legislative Assembly—7 May, 1895—Bill read third time. Legislative Council—12 June, 1895—Bill read third time; 25 June, 1895—Assent reported.
Railway from Parkes to Condobolin.	6 Mar., 1895	7 Mar., 1895	19 Mar., ,,	3 April, ,,	21 May, ,,	In this inquiry the Committee, while considering it expedient the railway should be constructed, resolved that the cost should not exceed £2,100 per mile, including the cost of land resumption.	,,	Legislative Assembly—27 June, 1895—Bil read third time. Legislative Council—3 July, 1895—Bill read third time; 14 August, 1895—Assent reported.
Railway from Temora to Wyalong (second reference).	7 ,, ,,	17 May ,,	5 June, ,,	19 June, ,,	27 June, ,,	The Committee negatived this proposed work, being of opinion that at the present time there is no justification for the construction of this railway, and that the prospects of Wyalong's future are not such as to lead them to conclude that the line should be built in anticipation of what may be the condition of the goldfield and the district some years hence.	Not dealt with.	....
Harbour Improvements at Newcastle.	14 ,, ,,	20 Mar. ,,	28 Mar., ,,	9 April, ,,	16 May, ,,	In this inquiry the Committee recommended a modification of the works proposed by the Department and an additional work, the cost of the works as recommended by the Committee being about the same as that of the works proposed by the Department.	Passed.	Legislative Assembly—17 September, 1895—Bill read third time. Legislative Council—6 November, 1895—Bill read third time; 13 November, 1895—Assent reported.
ramway from Woolwich to the Field of Mars Common.	20 June, ,,	25 June ,,	.....	....	Inquiry not completed.	.. ..	Withdrawn.	Motion to refer work to Sixth Committee negatived—11 December, 1895.

SIXTH COMMITTEE—FROM 11 DECEMBER, 1895.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable FREDERICK THOMAS HUMPHERY, Vice-Chairman.
The Honorable JOHN DAVIES, C.M.G.
The Honorable JAMES HOSKINS.
The Honorable CHARLES JAMES ROBERTS, C.M.G.
The Honorable WILLIAM JOSEPH TRICKETT.

LEGISLATIVE ASSEMBLY.

THOMAS THOMSON EWING, Esquire, Chairman.
HENRY CLARKE, Esquire.
CHARLES ALFRED LEE, Esquire.
JOHN LIONEL FEGAN, Esquire.
* ANGUS CAMERON, Esquire.
THOMAS HENRY HASSALL, Esquire.
GEORGE BLACK, Esquire.
FRANCIS AUGUSTUS WRIGHT, Esquire.

* Soon after the appointment of the Committee a vacancy was caused by the decease of Angus Cameron, Esquire. Mr. Cameron's seat has not been filled, Parliament having continued in recess since his demise.

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Deviation at Locksley, Great Western Railway.	11 Dec., 1895	12 Dec., 1895	13 Dec., 1895	14 Dec., 1895	17 Dec., 1895	Recommended as proposed	Passed.	Legislative Assembly—17 December, 1895—Bill passed through all its stages. Legislative Council—18 December, 1895—Bill passed through all its stages.
Water Supply for the Town of Tamworth.	11 Dec., 1895	17 Dec., 1895	8 Jan., 1896	16 Jan., 1896	30 Jan., 1896	The Committee recommended that the proposed work should be carried out, with the proviso that the capacity of the storage reservoir be increased from 35,000,000 to 50,000,000 gallons.	.....	.....
Railway from Nevertire to Warren.	11 ,, ,,	21 April, 1896	6 May, 1896	.....	.....	.....	.....	....
Railway from Tamworth to Manilla.	11 ,, ,,	20 Feb., ,,	17 Mar., 1896	31 Mar., 1896	.....	.....	.....	....

SIXTH COMMITTEE—*continued.*

Proposed Work.	Date of reference to Committee.	Date upon which inquiry was opened.	Date upon which Sectional Committee was appointed.	Date of Sectional Committee's Report.	Date of Committee's Report.	Statement of Committee's recommendation.	How dealt with by Parliament.	Date of Parliamentary action.
Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.	11 Dec., 1895	18 Mar., 1896	.....	.....	8 May, 1896	Recommended as proposed	.....	.....
Erection of Buildings at Rookwood for Infirm and Destitute Persons.	11 ,, ,,	21 Jan., ,,	....	.....	13 Mar., 1896	In this case the Committee deemed it inexpedient that the proposed buildings should be erected, but they recommended that the inmates of the Asylums in Macquarie, George, and Harris Streets, Parramatta, be removed as speedily as possible, and that the healthy destitute be housed at Rookwood and Liverpool; and further that suitable accommodation be provided near Campbelltown on available Crown lands for the chronic and acute sick.	.....	.....
Additions to the Treasury Building.	18 ,, ,,	9 ,, ,,	.....	.....	.....	....		
Construction of Locks and Weirs on the River Darling.	19 ,, ,,	.....	.....	.....	.....	....	.....	....

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF PROCEEDINGS.

THURSDAY, 12 *DECEMBER*, 1895.

THE SIXTH COMMITTEE appointed under the Public Works Act of 1888, the Public Works Act Amendment Act of 1889, and the Public Works (Committees' Remuneration) Act of 1889, met in the Committee's Board Room at half-past 1 o'clock p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery,
The Hon. John Davies, C.M.G.,
The Hon. James Hoskins,
The Hon. Charles James Roberts, C.M.G.,
The Hon. William Joseph Trickett,
Henry Clarke, Esq.,
Charles Alfred Lee, Esq.,
John Lionel Fegan, Esq.,
Thomas Thomson Ewing, Esq.,
Angus Cameron, Esq.,
Thomas Henry Hassall, Esq.,
George Black, Esq.,
Francis Augustus Wright, Esq.

On the motion of Mr. Davies, seconded by Mr. Lee, it was resolved,—"That Mr. Humphery take the chair until a Chairman be elected."

The Secretary produced a supplement to the *Government Gazette*, dated Thursday, 12 December, 1895, containing a notification of the appointment of the Committee, and reported that all the members of the Committee had made the declaration necessary, under the sixth clause of the Public Works Act, to be made by members prior to their entering upon the duties of their office, or sitting at any meeting of the Committee.

The Committee then proceeded to elect a Chairman and a Vice-Chairman.

Mr. Clarke moved,—"That Thomas Thomson Ewing, Esq., be appointed Chairman of the Committee."

The motion was seconded by Mr. Trickett, and passed.

Mr. Ewing thereupon took the chair.

Mr. Davies moved,—"That the Honorable Frederick Thomas Humphery be appointed Vice-Chairman of the Committee."

The motion was seconded by Mr. Hassall, and passed.

Mr. Davies moved,—"That unless otherwise ordered the Committee meet at 2 o'clock p.m., and that Friday be a sitting day."

The motion was seconded by Mr. Lee, and passed.

The Secretary read from the Votes and Proceedings of the Legislative Assembly of 11 December, 1895, a list of works referred to the Committee for consideration and report, and the Committee deliberated as to the order in which the proposed works should be taken.

The Committee proceeded to consider the proposed Deviation at Locksley, Great Western Railway.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, and Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, were sworn, and examined.

The Committee adjourned at 12 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 13 *DECEMBER*, 1895.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,
The Hon. John Davies, C.M.G.,
The Hon. James Hoskins,
The Hon. Charles James Roberts, C.M.G.,
The Hon. William Joseph Trickett,
Henry Clarke, Esq.,
Charles Alfred Lee, Esq.,
John Lionel Fegan, Esq.,
Angus Cameron, Esq.,
Thomas Henry Hassall, Esq.,
George Black, Esq.,
Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Clerk of the Legislative Assembly, informing the Committee of the passing by the Legislative Assembly of resolutions referring to the Committee for consideration and report the following proposed public works:—

Deviation at Locksley, on the Great Western Line of Railway.

Works of Water Supply for the Town of Tamworth.

A line of railway from Nevertire to Warren.

A line of railway from Tamworth to Manilla.

A line of electric tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street, and buildings at Rookwood for the accommodation of infirm and destitute persons in place of the buildings now used for such purpose at Parramatta, Liverpool, and elsewhere.

The correspondence was received.

The following accounts were passed for payment:—

	£	s.	d.
Williams and Cook (*Wyalong News*)	0	14	0
Crowley and Co. (*Wyalong Star*)...	1	1	0
James Meehan (*Temora Independent*)	1	8	0
Tucker, Thompson, and Eipper (*Maitland Mercury*)	2	17	9
Total...	£6	0	9

Mr. Davies moved,—"That Mr. Ewing, Mr. Trickett, Mr. Cameron, and Mr. Hassall be appointed a Sectional Committee to inspect and report with reference to the proposed Deviation at Locksley, Great Western Railway."

The motion was seconded by Mr. Wright, and passed.

Mr. Davies moved,—"That the Committee meet to-morrow (Saturday) from 10 a.m. to 12 noon, and on Monday at the usual hour."

The motion was seconded by Mr. Lee, and passed.

The Committee further considered the proposed Deviation at Locksley, Great Western Railway.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined.

Harry Richardson, Esq., Outdoor Superintendent, Traffic Branch, and Edward Andrew Loughry, Esq., Outdoor Locomotive Superintendent, Department of Railways, were sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 10 o'clock a.m. on Saturday, the following day.

SATURDAY, 14 *DECEMBER*, 1895.

The Committee met at 10 a.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. James Hoskins,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Deviation at Locksley, Great Western Railway.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, was sworn, and further examined.

John Vernon, Esq., Estate and Property Agent, and William Thow, Esq., Chief Mechanical Engineer, Department of Railways, were sworn, and examined.

Mr. Clarke gave notice that he would move at the next meeting of the Committee,—"That the Committee proceed to consider the evidence on the proposed Deviation at Locksley, Great Western Railway, with a view to reporting on the subject to the Legislative Assembly."

The Committee adjourned at half-past 11, until 2 o'clock p.m. on Monday, 16th December.

MONDAY, 16 *DECEMBER*, 1895.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

Mr. Ewing, as Chairman of the Sectional Committee appointed with reference to the proposed Deviation at Locksley, Great Western Railway, brought up the report of the Sectional Committee and moved that it be received and printed with the minutes of evidence taken by the Sectional Committee.

The motion was seconded by Mr. Trickett, and passed.

The Committee further considered the proposed Deviation at Locksley, Great Western Railway.

Mr. Clarke moved,—"That the Committee proceed to consider the evidence on the proposed Deviation at Locksley, Great Western Railway, with a view to reporting on the subject to the Legislative Assembly."

The motion was seconded by Mr. Davies, and passed.

Mr. Clarke moved,—"That, in the opinion of the Committee, it is expedient the proposed Deviation at Locksley, Great Western Railway, as referred to the Committee by the Legislative Assembly, be carried out."

The motion was seconded by Mr. Davies, and passed.

Mr.

Mr. Humphery moved,—"That the Committee, at its rising on Friday, 20th instant, adjourn until Tuesday, 7th January, 1896."

The motion was seconded by Mr. Lee, and passed on the following division:—

Ayes, 8.	Noes, 4.
Mr. Ewing,	Mr. Roberts,
Mr. Humphery,	Mr. Hassall,
Mr. Davies,	Mr. Black,
Mr. Hoskins,	Mr. Wright.
Mr. Trickett,	
Mr. Clarke,	
Mr. Lee,	
Mr. Fegan.	

The Committee adjourned at half-past 3, until 2 o'clock p.m. on Tuesday, the following day.

TUESDAY, 17 DECEMBER, 1895.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

Arthur Hurley, travelling expenses accompanying Sectional Committee on proposed Deviation at Locksley, Great Western Railway £0 17 1

The Committee proceeded to consider their Report to the Legislative Assembly on the proposed Deviation at Locksley, Great Western Railway.

The preamble, and clauses 1 to 3 were passed.

Clause 4.—Reasons for the proposed work.

Mr. Wright moved,—"That the clause be amended by the omission of the words 'increased one-third,' with a view to the insertion in their place of the words 'very largely increased.'"

The Committee divided upon the question, "That the words proposed to be omitted be so omitted"—

Ayes, 8.	Noes, 5.
Mr. Humphery,	Mr. Ewing,
Mr. Davies,	Mr. Clarke,
Mr. Hoskins,	Mr. Lee,
Mr. Roberts,	Mr. Fegan,
Mr. Trickett,	Mr. Black.
Mr. Cameron,	
Mr. Hassall,	
Mr. Wright.	

The insertion of the words 'very largely increased" was then agreed to, and the clause, as amended, was passed.

Clauses 5 and 6 were passed.

Clause 7.—The decision of the Committee.

Mr. Davies moved,—"That the clause be amended by the insertion after the word 'possible' of the words, 'at a cost not exceeding £47,000, including land resumptions.'"

The amendment was negatived on the following division, upon the question, "That the words proposed to be inserted be so inserted":—

Ayes, 6.	Noes, 7.
Mr. Humphery,	Mr. Ewing,
Mr. Davies,	Mr. Hoskins,
Mr. Roberts,	Mr. Trickett,
Mr. Cameron,	Mr. Clarke,
Mr. Black,	Mr. Lee,
Mr. Wright.	Mr. Fegan,
	Mr. Hassall.

The clause was then passed.

The Report was adopted, and the Chairman was authorised to sign it for presentation to the Legislative Assembly.

The Committee proceeded to consider the proposed Water Supply for the Town of Tamworth.

Joseph Barling, Esq., Under Secretary for Public Works, was sworn, and examined.

The Committee adjourned at 3 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY,

WEDNESDAY, 18 *DECEMBER*, 1895.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

J. S. Whitelocke—Typewriting evidence in the Committee's inquiry respecting the proposed Deviation at Locksley, Great Western Railway £0 18 0

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Joseph Barling, Esq., Under Secretary for Public Works, was sworn, and further examined.

The Committee adjourned at 10 minutes to 4, until 2 o'clock p.m., on Thursday, the following day.

THURSDAY, 19 *DECEMBER*, 1895.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Robert R. P. Hickson, Esq., Engineer-in-Chief for Public Works, was sworn, and examined.

The Committee adjourned at 2 minutes to 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 20 *DECEMBER*, 1895.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Clerk of the Legislative Assembly, informing the Committee of the passing by the Legislative Assembly of a resolution referring to the Committee for consideration and report the expediency of carrying out Additions to the Treasury Buildings, Macquarie-street, Sydney.

The correspondence was received.

The following account was passed for payment:—

J. S. Whitelocke—Typewriting evidence in the Committee's inquiry respecting the proposed Water Supply for the Town of Tamworth £1 8 6

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Edward Bellingham Price, Assistant Engineer, Department of Public Works, was sworn, and examined.

The Committee adjourned at 19 minutes past 4, until 2 o'clock p.m., on Tuesday, 7 January, 1896.

TUESDAY, 7 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Clerk of the Legislative Assembly informing the Committee of the passing by the Legislative Assembly of a resolution referring to the Committee for consideration and report the expediency of constructing six locks and weirs on the River Darling from Stony Point to Brewarrina.

Letter

Letter from Mr. F. B. Gipps, C.E., with reference to his giving evidence in the Committee's inquiry respecting the proposed Water Supply for the Town of Tamworth.

Letter from the Secretary of the Australian Gas Light Company forwarding for the information of the Committee an extract from the Company's London correspondent's letter on the "Electrolysis of Gas and Water Mains."

The correspondence was received.

The following accounts were passed for payment:—

	£	s.	d.
J. S. Whitelocke—Type-writing evidence in the Committee's inquiry respecting the proposed Water Supply for the Town of Tamworth	1	8	6
B. Barber—Overtime transcribing evidence in the Committee's inquiry respecting the proposed Deviation at Locksley, Great Western Railway	0	17	6
Total	£2	6	0

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Edward Bellingham Price, Esq., Assistant Engineer, Department of Public Works, was sworn, and further examined.

Joseph Davis, Esq., Principal Assistant Engineer for Country Towns Water Supply and Sewerage, was sworn, and examined.

Mr. Davies gave notice that he would move at the next meeting of the Committee,—"That a Sectional Committee, consisting of Mr. Ewing, Mr. Lee, Mr. Fegan, Mr. Wright, and Mr. Davies, be appointed to inspect, take evidence, and report with reference to the proposed Water Supply for the Town of Tamworth."

The Committee adjourned at 4 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 8 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment:—

	£	s.	d.
David Gilbert, reporting evidence in the Committee's inquiry with reference to the proposed Deviation at Locksley, Great Western Railway	12	0	0
David Gilbert, reporting evidence in the Committee's inquiry with reference to the proposed Water Supply for the Town of Tamworth	23	5	0
B. S. Percy, type-writing evidence in the Committee's inquiries respecting the proposed Deviation at Locksley, Great Western Railway, and the proposed Water Supply for the Town of Tamworth	1	7	6
Total	£36	12	6

Mr. Davies moved,—"That a Sectional Committee, consisting of Mr. Ewing, Mr. Lee, Mr. Fegan, Mr. Wright, and Mr. Davies, be appointed to inspect, take evidence, and report with reference to the proposed Water Supply for the Town of Tamworth."

The motion was seconded by Mr. Wright, and passed.

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Frederick Bowdler Gipps, Esq., Civil Engineer, was sworn, and examined.

The Committee adjourned at 12 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 9 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Frederick Bowdler Gipps, Esq., Civil Engineer, was sworn, and further examined.

The Committee proceeded to consider the proposed Additions to the Treasury Building.

Francis Kirkpatrick, Esq., Under Secretary for Finance and Trade, was sworn, and examined.

The Committee adjourned at 3 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY,

FRIDAY, 10 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Additions to the Treasury Building.

Accompanied by Mr. Kirkpatrick, Under Secretary for Finance and Trade, and Mr. W. L. Vernon, Government Architect, the Committee visited the Treasury Building, and inspected the various rooms, acquainting themselves by personal examination with the present accommodation and that which the proposed additions are intended to provide.

Francis Kirkpatrick, Esq., Under Secretary for Finance and Trade, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 14th January.

TUESDAY, 14 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice Chairman.

The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Additions to the Treasury Building.

Walter Liberty Vernon, Esq., Government Architect, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 15 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice Chairman.

The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Telegram from the Chairman of the Sectional Committee appointed with reference to the proposed Water Supply for the Town of Tamworth, reporting the progress made by the Sectional Committee in their inquiry.

The correspondence was received.

The Committee further considered the proposed Additions to the Treasury Building.

Walter Liberty Vernon, Esq., Government Architect, was sworn, and further examined.

The Committee adjourned at 28 minutes past 3, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 16 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment:—

	£	s.	d.
B. H. Friend, shorthand writer, accompanying Sectional Committee appointed with reference to the proposed Water Supply for the Town of Tamworth...	11	13	0
Solomon Joseph (*Tamworth News*) advertising	0	16	6
Total	12	9	6

Mr.

Mr. Ewing, as Chairman of the Sectional Committee appointed to inspect, take evidence, and report with reference to the proposed Water Supply for the Town of Tamworth, brought up the report of the Sectional Committee, and moved, that it be received and printed with the minutes of evidence taken before the Sectional Committee.

The motion was seconded by Mr. Davies, and passed.

The report was then read by the Secretary.

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Hugh Giffen M'Kinney, Esq., Chief Engineer, Water Conservation Branch, Department of Mines, was sworn, and examined.

The Committee further considered the proposed Additions to the Treasury Building.

The Secretary read a memorandum to the Under Secretary for Finance and Trade from Mr. N. Lockyer, Receiver, Revenue Branch, Treasury, on the "proposed transfer of the Land Accounts from the Treasury to the Lands Department."

The document was received.

Mr. Davies moved,—"That the further consideration of the proposed Additions to the Treasury Building be postponed."

The motion was seconded by Mr. Hassall, and passed.

Mr. Humphery gave notice that he would move at the next meeting of the Committee,—"That the Committee proceed to consider the evidence on the proposed Water Supply for the Town of Tamworth, with a view to reporting on the subject to the Legislative Assembly."

The Committee adjourned at half-past 3, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 17 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Statements from John Riely and James Dwyer, of Moonbi, with reference to the proposed Water Supply for the Town of Tamworth.

The correspondence was received.

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Joseph Davis, Esq., Principal Assistant Engineer for Country Towns Water Supply and Sewerage, Department of Public Works, was sworn, and further examined.

Mr. Humphery moved,—"That the Committee proceed to consider the evidence on the proposed Water Supply for the Town of Tamworth, with a view to reporting on the subject to the Legislative Assembly."

The motion was seconded by Mr. Wright, and passed.

Mr. Humphery moved,—"That the Committee consider it expedient that the proposed Water Supply for the Town of Tamworth, referred to the Committee by the Legislative Assembly, should be carried out, but they recommend that the capacity of the storage reservoir should be increased from 35,000,000 to 50,000,000 gallons."

Mr. Davies seconded the motion.

Mr. Lee moved,—"That the motion be amended by the addition of the words 'and the capacity of the service reservoir to 1,000,000 gallons.'"

Mr. Trickett seconded the amendment.

Mr. Cameron moved,—"That the debate on the motion and amendment be adjourned until Thursday, 23rd instant, in order that the evidence taken before the Sectional Committee with reference to the proposed Water Supply for the Town of Tamworth may be printed."

The motion for the adjournment of the debate was seconded by Mr. Wright, and passed, on the following division:—

Ayes, 8.	Noes, 3.
Mr. Ewing,	Mr. Hoskins,
Mr. Humphery,	Mr. Clarke,
Mr. Trickett,	Mr. Fegan.
Mr. Lee,	
Mr. Cameron,	
Mr. Hassall,	
Mr. Black,	
Mr. Wright,	

The Committee adjourned at 5 minutes to 4, until 2 o'clock p.m. on Tuesday, 21 January.

TUESDAY,

TUESDAY, 21 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. T. H. Hassall, M.P., requesting that his attendance at the meetings of the Committee for the present week be excused in consequence of family bereavement.

The correspondence was received.

The following account was passed for payment:—

B. H. Friend, shorthand writer, accompanying Sectional Committee on proposed Water Supply for the Town of Tamworth, conveyance, £1 1s. 6d.

The Chairman informed the Committee that the Secretary had accepted the position of Secretary to the Public Service Board, and, therefore, must resign the Secretaryship of the Committee.

Mr. Humphery moved,—"That the members of this Committee place on record their appreciation of the valuable services rendered by Mr. Charles Lyne, who will vacate the position of Secretary, having received a similar appointment to the Public Service Board."

The motion was seconded by Mr. Davies, and passed.

The Committee proceeded to consider the proposed erection of Buildings at Rookwood for Infirm and Destitute Persons.

Walter Liberty Vernon, Esq., Government Architect, was sworn, and examined.

The Committee adjourned at 15 minutes past 4, until half-past 1 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 22 *JANUARY*, 1896.

The Committee met at the Redfern Railway Station at 1·30 p.m., and proceeded by train to Parramatta.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

Accompanied by Mr. W. L. Vernon, Government Architect, and Mr. A. W. Green, Secretary to Charitable Institutions, the Committee then proceeded by vehicle to the Government Asylums at Macquarie-street and George-street, Parramatta, where they made a thorough inspection of these institutions and the accommodation provided for Infirm and Destitute Persons.

The Committee adjourned at 4·25 p.m.

THURSDAY, 23 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Angus Cameron, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,
Charles Alfred Lee, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

John Sands, Sydney and Suburban Directory, 1896, for office use, £1.

The Committee accompanied by Mr. W. L. Vernon, Government Architect, and Mr. A. W. Green, Secretary to Charitable Institutions, then proceeded by tram to Randwick and inspected the Asylum at that place, and the Hospital and Reception House in connection therewith, in relation to their inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

FRIDAY,

FRIDAY, 24 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon James Hoskins,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Acting Secretary read the following correspondence:—

Letter from Mr. R. H. Maund, applying for the position of Secretary to the Committee.

Letter from Mr. F. B. Gipps, C.E., with reference to his evidence in the Committee's inquiry respecting the proposed Water Supply for the Town of Tamworth.

The correspondence was received.

The following account was passed for payment:—

C. O. Lamb—Hire of vehicle in connection with the Committee's visit of inspection to the asylums at Macquarie-street and George-street, Parramatta... ... £1 5 0

The Committee further considered the proposed Water Supply for the Town of Tamworth.

Joseph Davis, Esq., Principal Assistant Engineer for Country Towns Water Supply and Sewerage, was sworn, and further examined.

The adjourned debate upon Mr. Humphery's motion,—"That the Committee consider it expedient that the proposed Water Supply for the Town of Tamworth, referred to the Committee by the Legislative Assembly, be carried out, but they recommend that the capacity of the storage reservoir should be increased from 35,000,000 to 50,000,000 gallons"—upon which Mr. Lee had moved as an amendment,—"That the motion be amended by the addition of the words 'and the capacity of the service reservoir to 1,000,000 gallons,'" was resumed.

Upon the question,—"That the motion be amended by the addition of the words 'and the capacity of the service reservoir to 1,000,000 gallons,'" the Committee divided as follows:—

Ayes, 4.	Noes, 5.
Mr. Davies,	Mr. Ewing,
Mr. Hoskins,	Mr. Humphery,
Mr. Clarke,	Mr. Fegan,
Mr. Lee,	Mr. Black,
	Mr. Wright.

The motion was then passed.

The Committee adjourned at 4 o'clock until 2 o'clock p.m. on Tuesday, 28th January.

TUESDAY, 28 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.

The minutes of the previous meeting were read, and confirmed.

A telegram was received from the Hon. W. J. Trickett, expressing his grief at the death of Mr. Angus Cameron, M.P.

Mr. Humphery moved,—"That the members of the Committee in recording a vacancy by reason of the decease of Mr. Angus Cameron, M.L.A., desire to express their sense of the loss sustained by Mr. Cameron's death, and also to convey to his family deep sympathy with them in their sudden bereavement."

Mr. Davies seconded the motion, and it was passed unanimously.

The Committee further considered the proposed additions to the Treasury Building.

Edward Alexander Rennie, Esq., Auditor General, and William Henry Capper, Esq., Officer-in-charge of the Sales Division, Department of Lands, were sworn, and examined.

The Committee adjourned at 4 o'clock, until half-past 1 o'clock p.m. on Wednesday, the following day, at the Redfern Railway Station.

WEDNESDAY, 29 *JANUARY* 1896.

The Committee met at 1·30 p.m. at the Redfern Railway Station, and proceeded by train to Rookwood.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Chairman informed the Committee that through the removal of Mr. Charles Lyne, the late Secretary, and Mr. J. W. Holliman, Acting Secretary to the Committee, it was necessary some fresh arrangements should be made in connection with the staff. After

After discussion it was decided to recommend that Mr. Walter D. White should be appointed temporarily as Secretary, pending the reorganisation of the service to be carried out by the Public Service Board, and in view of the additional work and responsibility which will devolve upon Mr. O'Meagher his salary should be increased from £200 to £250 per annum, and that the Committee's recommendation be communicated to the Public Service Board.

Accompanied by Mr. W. L. Vernon, Government Architect, and Mr. A. W. Green, Secretary to Charitable Institutions, the Committee then inspected the various buildings erected on the site at Rookwood, purchased by the Government; the irrigation system in connection with the cultivation and supply of fruit and vegetables for the inmates, and the site of the proposed new buildings; and by the aid of plans, which were explained by the Government Architect, made themselves acquainted with the additional accommodation to be provided there. Thence they proceeded by vehicles to the Potts' Hill Reservoir, from which the supply of water for the asylums at Rookwood is obtained. *En route* a careful inspection of the surrounding country was made in regard to the suitableness of the locality for the concentration of the several institutions for infirm and destitute persons. The Committee also acquainted themselves with the system at present in operation there for the disposal of sewage, and the possibility of its more effectual treatment in the future.

THURSDAY, 30 *JANUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee proceeded to consider their Report to the Legislative Assembly on the proposed Water Supply for the Town of Tamworth.

The Report was adopted, and the Chairman was authorised to sign it for presentation to the Legislative Assembly.

The Committee adjourned at 4 o'clock, until 12 o'clock noon on Friday, the following day.

FRIDAY, 31 *JANUARY*, 1896.

The Committee met at 12 noon.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee, accompanied by Mr. A. W. Green, Secretary to Charitable Institutions, then proceeded by steam launch to Newington Asylum where they made themselves acquainted with the accommodation provided there for Infirm and Destitute Persons.

TUESDAY, 4 *FEBRUARY*, 1896.

The Committee met at 1·30 p.m. at the Redfern Railway Station and proceeded by train to Liverpool.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	John Lionel Fegan, Esq.,
The Hon. John Davies, C.M.G.,	Thomas Henry Hassall, Esq.,
Henry Clarke Esq.,	George Black, Esq.,
Charles Alfred Lee, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee, accompanied by Mr. W. L. Vernon, Government Architect, and Mr. A. W. Green, Secretary to Charitable Institutions, then visited the Liverpool Asylum, where they made themselves acquainted with the accommodation provided there for Infirm and Destitute Persons.

WEDNESDAY,

WEDNESDAY, 5 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Secretary to the Public Service Board with reference to the appointment of Mr. Walter D. White as Secretary, and a suggested increase to the salary of Mr. Hedley V. O'Meagher, clerk in the office of the Committee.

Letter from Mr. Sydney Maxted, Director of Government Asylums for the Infirm and Destitute, forwarding a medical certificate of his inability to attend and give evidence before the Committee with reference to the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The correspondence was received.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Walter Liberty Vernon, Esq., Government Architect, was sworn, and further examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 6 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Walter Liberty Vernon, Esq., Government Architect, was sworn, and further examined.

The Committee adjourned at 55 minutes past 3, until a quarter-past 2 o'clock p.m. on Friday, the following day.

FRIDAY, 7 *FEBRUARY*, 1896.

The Committee met at 2·15 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following accounts were passed for payment:—

	£	s.	d.
C. O. Lamb, Parramatta, hire of vehicle in connection with Committee's visit of inspection to the Asylums at Parramatta, in relation to their inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons	2	0	0
George Baumann, expenses in connection with Committee's visits of inspection to Rookwood, Newington, and Liverpool, in connection with their inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons	8	16	6
Total	£10	16	6

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Joseph Aloysius Beattie, Esq., M.D., Medical Superintendent, Liverpool Asylum, Department of Charitable Institutions, was sworn, and examined.

The Committee adjourned at 35 minutes past 4, until 2 o'clock p.m. on Tuesday, 11th February.

TUESDAY,

TUESDAY, 11 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Isaac Waugh, Esq., M.B., Medical Superintendent, Parramatta Asylums, was sworn, and examined.

The Committee adjourned at 24 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 12 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	John Lionel Fegan, Esq.,
The Hon. John Davies, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. James Hoskins,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.
Charles Alfred Lee, Esq.,	

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

L. Lewington, typewriting evidence taken in Committee's inquiry respecting the proposed Deviation at Locksley, Great Western Railway £0 13 0

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

John Ashburton Thompson, Esq., M.D., Deputy Medical Adviser to the Government, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m., on Thursday, the following day.

THURSDAY, 13 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

John Ashburton Thompson, Esq., M.D., Deputy Medical Adviser to the Government, was sworn, and further examined.

William Bradley Violette, Esq., M.B., Government Medical Officer, Parramatta, was sworn, and examined.

The Committee adjourned at 22 minutes past 4, until 2 o'clock p.m., on Friday, the following day.

FRIDAY, 14 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Under Secretary, Department of Lands, stating that the Committee's letter of the 17th ult., recommending that the present Crown lands within the catchment area of the proposed Water Supply for the Town of Tamworth be at once reserved, had been referred to the District Surveyor, at Tamworth, for report.

The correspondence was received.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

James Burt, Esq., Draftsman-in-charge, Information Bureau, Department of Lands; Cecil West Darley, Esq., President, Board of Water Supply and Sewerage; and the Hon. Sir Arthur Renwick, M.D., M.L.C., President, State Children's Relief Board, were sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m., on Tuesday, 18th February.

TUESDAY,

TUESDAY, 18 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. Sydney Maxted, Director of Government Asylums for the Infirm and Destitute, forwarding a further medical certificate of his inability to attend before the Committee and give evidence with reference to the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The correspondence was received.

The Chairman reported that, in company with Dr. J. Ashburton Thompson, Deputy Medical Adviser to the Government, and Mr. Surveyor Scrivener, Department of Lands, he had visited Campbelltown on Saturday, 15th inst., and inspected a portion of Crown land, distant some 2 miles from the Campbelltown Railway Station, which it was thought might serve as a site for a hospital for the treatment of sick poor, in connection with the Committee's inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Charles Robert Scrivener, Esq., Staff Surveyor, Department of Lands, and Joseph Davis, Esq., M.I.C.E., Principal Assistant Engineer for Country Towns Water Supply and Sewerage, Department of Public Works, were sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 19 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Council Clerk of the Borough of Liverpool, informing the Committee that the inhabitants of that town were averse to the Liverpool Asylum being converted into a hospital for the treatment of contagious diseases, and stating that certain members of the Liverpool Borough Council desired to give evidence before the Committee respecting the subject.

The correspondence was received, and the Secretary was instructed to inform the Council Clerk that the Committee would take the evidence of two witnesses on the subject on Friday, 21st instant.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Critchett Walker, Esq., C.M.G., Principal Under Secretary, was sworn, and examined.

The Committee adjourned at 45 minutes past 3, until 2 o'clock p.m., on Thursday, the following day.

THURSDAY, 20 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. James Hoskins,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Telegram from the Council Clerk, Borough of Liverpool, requesting the Committee to defer the examination of the witnesses desirous of giving evidence before the Committee until Monday, 24th instant.

The correspondence was received, and the Secretary was instructed to reply, stating the Committee would be prepared to hear the evidence of the witnesses in question on the afternoon of Tuesday, 25th instant.

The Committee proceeded to consider the proposed Railway from Tamworth to Manilla.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY,

FRIDAY, 21 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, and John Harper, Esq., Goods Superintendent, Department of Railways, were sworn, and examined.

Mr. Lee gave notice that he would move at the next meeting of the Committee:—"That prior to a Sectional Committee visiting the district to inquire into the proposed Tamworth to Manilla Railway, the owners of the land along the surveyed route be communicated with, in order to ascertain if they are willing to give the land required free of cost, the Government bearing all legal expenses in transferring same."

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m., on Tuesday, the 25th instant.

TUESDAY, 25 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Secretary to the Railway Commissioners with regard to land required for railway purposes, in connection with the Committee's inquiry into the proposed Railway from Tamworth to Manilla.

Paper from Mr. C. Stuart, Enmore.

The correspondence was received.

Mr. Lee's notice of motion respecting the land required for the proposed Railway from Tamworth to Manilla, and an amendment thereon by Mr. Fegan, were postponed.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

John Cole, Esq., Alderman, Borough of Liverpool, Frederick Chapman, Esq., Mayor of Liverpool, and Pollard Smith, Esq., Alderman, Borough of Liverpool, were sworn, and examined.

The Committee adjourned at 9 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 26 *FEBRUARY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq,

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Statement forwarded by Mr. Sydney Maxted, Director of Government Asylums, respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The correspondence was received.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The Secretary read the statement forwarded by Mr. Maxted, Director of Government Asylums, having reference to the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

It was ordered that the statement be printed.

Alfred William Green, Esq., Secretary to Charitable Institutions, was sworn, and examined.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Arthur James Stopps, Esq., Acting Chief Draftsman, Department of Lands, was sworn, and examined.

The Committee adjourned at 5 minutes to 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY,

THURSDAY, 27 FEBRUARY, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Charles William Jenkins, Esq., Resident Engineer, Department of Public Works, Tamworth, was sworn, and examined.

Arthur James Stopps, Esq., Acting Chief Draftsman, Department of Lands, was sworn, and further examined.

The Committee adjourned at 8 minutes to 4, until half-past 9 o'clock a.m. on Friday, the following day, at the Redfern Railway Station.

FRIDAY, 28 FEBRUARY, 1896.

The Committee met at 9·30 a.m., at the Redfern Railway Station, and proceeded by train to Leumeah.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee, accompanied by Mr. E. B. Price, M. Inst. C.E., Assistant Engineer, Department of Public Works, and Mr. C. R. Scrivener, Surveyor, Department of Lands, then inspected a portion of the land available for homestead selection, distant about one mile and a half from Campbelltown, which it was thought might possibly be utilised as sites for hospitals in connection with the Committee's inquiry into the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons. A close inspection was made of the sites deemed suitable for building and for the effective treatment of sewage. The Committee likewise satisfied themselves as to the possibility of obtaining a permanent water supply from George's River.

TUESDAY, 3 MARCH, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Statement by Mr. Charles R. Scrivener respecting the Government Asylum at Liverpool; further statement by Mr. Charles R. Scrivener respecting the Government Asylum at Liverpool, showing the buildings within 300 and 500 yards respectively of the Asylum walls in connection with the Committee's inquiry into the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Letter from Alderman F. Chapman, Mayor of Liverpool, forwarding tracing showing residences within a given radius of the Asylum walls, in connection with the Committee's inquiry into the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Letter from Mr. Henry Deane, Engineer-in-Chief for Railway Construction, giving particulars respecting the approximate areas of Crown and alienated lands required for railway purposes, in connection with the Committee's inquiry into the proposed Railway from Tamworth to Manilla.

The correspondence was received.

The following account was passed for payment:—

Thomas Gamble (Campbelltown)—Hire of vehicles in connection with the Committee's visit of inspection to certain lands in the vicinity of Campbelltown, in connection with the Committee's inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons ... £3 3 0

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Thomas Whitford Taylor, Esq., auctioneer, Liverpool, and Sydney Maxted, Esq., Director of Government Asylums, were sworn, and examined.

The Committee adjourned at 2 minutes past 4 until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY,

WEDNESDAY, 4 MARCH, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. S. W. Moore, M.P., with reference to the Committee's inquiry into the proposed Railway from Tamworth to Manilla.

The correspondence was received.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Sydney Maxted, Esq., Director of Government Asylums, was sworn, and further examined.

The Committee adjourned at 2 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 5 MARCH, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The following account was passed for payment:—

George Baumann—Expenses in connection with Committee's visit of inspection to certain lands in the vicinity of Campbelltown, in relation to their inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons £3 7 6

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Sydney Maxted, Esq., Director of Government Asylums, was sworn, and further examined.

The Committee adjourned at 17 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 6 MARCH, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Dr. W. Odillo Maher, Visiting Ophthalmic Surgeon to Government Asylums, offering to give evidence in connection with the Committee's inquiry into the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The correspondence was received.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Edward Bellingham Price, Esq., Assistant Engineer, Department of Public Works, was sworn, and examined.

Sydney Maxted, Esq., Director of Government Asylums, was sworn, and further examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Tuesday, the 10th March.

TUESDAY, 10 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

William Odillo Maher, Esq., M.D., Visiting Ophthalmic Surgeon to Government Asylums, was sworn, and examined.

Walter Liberty Vernon, Esq., Government Architect, was sworn, and further examined.

Mr. Wright moved,—"That the Committee proceed to consider the evidence on the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons, with a view to reporting on the subject to the Legislative Assembly."

The motion was seconded by Mr. Trickett, and passed.

Mr. Wright moved,—"That, in the opinion of the Committee, it is not expedient that the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons, at a cost of £108,350, exclusive of sewerage, as referred to the Committee by the Legislative Assembly, be carried out; but the Committee recommend that all inmates of the Asylums in Macquarie, George, and Harris Streets, Parramatta, be removed as speedily as possible, and that the healthy destitute be housed at Liverpool and Rookwood; and, further, that suitable accommodation be provided near Campbelltown, on available Crown lands, for the chronic and acute sick."

The motion was seconded by Mr. Lee, and passed.

The Committee adjourned at 2 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 11 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee proceeded to consider their Report to the Legislative Assembly on the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The preamble and clauses 1 to 6 were passed.

Clause 7—Opinion of Liverpool residents.

Mr. Lee moved,—"That the clause be omitted."

The amendment was seconded by Mr. Hoskins, and negatived on the following division:—

Ayes, 2.	Noes, 8.
Mr. Hoskins,	Mr. Ewing,
Mr. Lee.	Mr. Humphery,
	Mr. Davies,
	Mr. Clarke,
	Mr. Fegan,
	Mr. Hassall,
	Mr. Black,
	Mr. Wright.

The clause was then passed on the following division:—

Ayes, 8.	Noes, 2.
Mr. Ewing,	Mr. Hoskins,
Mr. Humphery,	Mr. Lee.
Mr. Davies,	
Mr. Clarke,	
Mr. Fegan,	
Mr. Hassall,	
Mr. Black,	
Mr. Wright.	

Clause 8 was passed.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY,

THURSDAY, 12 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Under Secretary, Department of Lands, informing the Committee that the Honorable the Secretary for Lands had approved of the withdrawal from sale of a portion of Homestead Selection Area No. 75, at Campbelltown, recommended by the Committee as a suitable site for the erection of buildings for indigent poor, in connection with their inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

The correspondence was received.

The Committee further considered their Report to the Legislative Assembly on the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Clauses 9 and 10 were passed.

Clause 11—The site chosen by the Department at Rookwood.

Mr. Humphery moved,—"That the clause be amended by the omission from sub-section (v) of the words 'to which must be added an annual charge of £1,064 for working expenses.'"

The amendment was seconded by Mr. Black, and negatived on the following division upon the question,—"That the words proposed to be omitted stand part of the clause."

Ayes, 8.	Noes, 3.
Mr. Ewing,	Mr. Humphery,
Mr. Davies,	Mr. Hoskins,
Mr. Trickett,	Mr. Black.
Mr. Clarke,	
Mr. Lee,	
Mr. Fegan,	
Mr. Hassall,	
Mr. Wright.	

The clause was passed on the following division:—

Ayes, 8.	Noes, 3.
Mr. Ewing,	Mr. Humphery,
Mr. Davies,	Mr. Hoskins,
Mr. Trickett,	Mr. Black.
Mr. Clarke,	
Mr. Lee,	
Mr. Fegan,	
Mr. Hassall,	
Mr. Wright.	

Clause 12 was passed.

Clause 13—The policy of centralization further considered.

Mr. Humphery moved,—"That the clause be amended by the omission of sub-section (II)."

The motion was seconded by Mr. Trickett, and negatived on the following division upon the question,—"That the words proposed to be omitted stand part of the clause."

Ayes, 9.	Noes. 2.
Mr. Ewing,	Mr. Humphery,
Mr. Davies,	Mr. Trickett.
Mr. Hoskins,	
Mr. Clark,	
Mr. Lee,	
Mr. Fegan,	
Mr. Hassall,	
Mr. Black,	
Mr. Wright.	

The clause was passed on the following division:—

Ayes, 9.	Noes, 2.
Mr. Ewing,	Mr. Humphery,
Mr. Davies,	Mr. Trickett.
Mr. Hoskins,	
Mr. Clarke,	
Mr. Lee,	
Mr. Fegan,	
Mr. Hassall,	
Mr. Black,	
Mr. Wright.	

Clauses 14 to 17 were passed, and the further consideration of the Report was postponed until the following day.

Mr. Lee's notice of motion, with reference to owners of land along the surveyed route of the proposed Railway from Tamworth to Manilla conveying such land free of cost to the Government, was (with consent) withdrawn.

The Committee adjourned at half-past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY,

FRIDAY, 13 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. James Hoskins.	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered their Report to the Legislative Assembly on the proposed Erection of Buildings at Rookwood for Infirm and Destitute Persons.

Clause 18.—Cost of scheme approved by Committee—was passed.

The Report was adopted, and the Chairman was authorised to sign it for presentation to the Legislative Assembly.

Mr. Black gave notice that he would move at the next meeting of the Committee:—"That a Sectional Committee, consisting of Mr. Humphery, Mr. Trickett, Mr. Lee, Mr. Fegan, and Mr. Black, be appointed to inspect, take evidence, and report with reference to the proposed Railway from Tamworth to Manilla."

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 17 March.

TUESDAY, 17 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. James Hoskins,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Under Secretary, Department of Lands, forwarding a map of the county of Darling, containing information required in connection with the Committee's inquiry respecting the proposed Railway from Tamworth to Manilla.

The correspondence was received.

Mr. Black moved,—"That a Sectional Committee, consisting of Mr. Ewing, Mr. Roberts, Mr. Fegan, and Mr. Black, be appointed to inspect, take evidence, and report with reference to the proposed Railway from Tamworth to Manilla."

The motion was seconded by Mr. Davies, and passed.

The Committee further considered the proposed Railway from Tamworth to Manilla.

John Harper, Esq., Goods Superintendent, Department of Railways, was sworn, and further examined.

The Committee proceeded to consider the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Hugh M'Lachlan, Esq., Secretary to the Railway Commissioners, was sworn, and examined.

The Committee adjourned at 35 minutes past 3, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 18 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. John Musson, C.E., on the subject of the utilization of railway embankments as dams for the storage of water, in connection with the Committee's inquiry respecting the proposed Railway from Tamworth to Manilla.

Letter from Mr. S. Maxted, with reference to his evidence in the Committee's inquiry respecting the proposed Erection of Buildings at Rookwood for Infirm and Destitute persons.

The correspondence was received.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street, to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY,

THURSDAY, 19 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street, to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 20 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

Mr. Wright (with consent) moved,—"That the Committee, at its rising on Thursday, 2nd prox., adjourn until Wednesday, 8th April."

The motion was seconded by Mr. Lee, and passed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, was sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 24th March.

TUESDAY, 24 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. John Musson, C.E., with respect to a suggested alteration in the route of the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. T. W. Aubin, forwarding names of gentlemen competent to give evidence respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Hugh McLachlan, Esq., Secretary to the Railway Commissioners, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 25 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. E. Ambrose, with respect to street tramways and light railways.

Letter from Messrs. Reddan and Nardin, joint hon. secs. of the Nevertire-Warren Railway Committee, respecting the proposed Railway from Nevertire to Warren.

The correspondence was received.

The

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

John Kneeshaw, Esq., Tramway Traffic Superintendent, Department of Railways, was sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 26 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

John Musson, Esq., C.E., Harry B. Lassetter, Esq., and Alfred Edward, Esq., Registrar and Inspector, Metropolitan Transit Commission, were sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 27 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from the Mayor of Sydney, stating that owing to certain pressing engagements he was unable to attend as arranged at the office of the Committee, for the purpose of giving evidence respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. John Kneeshaw, Tramway Traffic Superintendent, Department of Railways, respecting the probable estimated traffic in connection with the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The following account was passed for payment:—

W. J. Rainbow—Reading and correcting printer's proofs of evidence... ... ... £3 12 0

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined.

John Macpherson, Esq., and William Newman, Esq., were sworn, and examined.

The Committee adjourned at 12 minutes past 4, until 2 o'clock p.m. on Tuesday, 31st March.

TUESDAY, 31 *MARCH*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. John Crawford with reference to electric tramways.

The correspondence was received.

The Committee further considered the proposed Railway from Tamworth to Manilla.

Mr. Ewing, as Chairman of the Sectional Committee appointed to inspect, take evidence, and report with reference to the proposed Railway, brought up the Sectional Committee's report, and moved that it be received and printed with the minutes of evidence taken before the Sectional Committee.

The motion was agreed to.

James Burt, Esq., Draftsman-in-charge, Information Bureau, Department of Lands, was sworn, and examined.

The

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station ; and also along Harris-street to the intersection of John-street.

William Douglas Bear, Esq., Superintendent, Metropolitan Fire Brigades, and Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, were sworn, and examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 1 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station ; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, was sworn, and further examined.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 2 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. H. B. Lassetter, forwarding a statement signed by persons having business premises in George-street in favour of an Electric Tramway being laid from Circular Quay to the Redfern Station; and also along Harris-street to the intersection of John-street.

The correspondence was received, and it was ordered that the letter and statement be printed as an appendix to the evidence given by Mr. H. B. Lassetter in the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, was sworn, and further examined.

The Committee adjourned at 25 minutes past 3, until 2 o'clock p.m. on Wednesday, the 8th April.

WEDNESDAY, 8 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,
Charles Alfred Lee, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station ; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, was sworn, and further examined.

Philip Billingsley Walker, Esq., Secretary to the Electric Telegraph Department, was sworn, and examined.

The Committee adjourned at 5 minutes to 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY,

THURSDAY, 9 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,
Charles Alfred Lee, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Alfred Edward, Esq., Registrar, Metropolitan Transit Commission, was sworn, and further examined.

Norman Selfe, Esq., M.I.C.E., was sworn, and examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 10 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

The Hon. Frederick Thomas Humphery, Vice-Chairman.

The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,
Charles Alfred Lee, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Isaac Ellis Ives, Esq., Mayor of Sydney, was sworn, and examined.

The Committee adjourned at a quarter-past 4, until 2 o'clock p.m. on Tuesday, the 14th April.

TUESDAY, 14 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Alderman C. E. Jeanneret, asking to be allowed to give evidence in the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The following accounts were passed for payment:—

Todd and Hooke (*Tamworth Observer*)—Advertising visits of Sectional Committees appointed to inspect, take evidence, and report with reference to the proposed Water Supply for the Town of Tamworth and the proposed Railway from Tamworth to Manilla	£1 19 0
Arthur Blenkin—Shorthand writer accompanying Sectional Committee upon proposed Railway from Tamworth to Manilla	18 6 10
The Australian Newspaper Company, Limited (*Star*)—Advertising Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street	1 1 4
Alfred Edward (Registrar, Metropolitan Transit Commission)—Expenses incurred by the Registrar of the Metropolitan Transit Commission in the collection of information required by the Committee in connection with their inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street	2 10 0
Total...	£23 17 2

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Philip Billingsley Walker, Esq, Secretary to the Electric Telegraph Department, was sworn, and further examined.

The Committee adjourned at 12 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY,

WEDNESDAY, 15 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. P. B. Elwell, Electrical Engineer, Department of Railways, with reference to a possible interference to the telegraph or telephone systems by currents in electric tramway wires, in relation to the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The following account was passed for payment:—

S. Bennett (*Evening News*)—Advertising Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street £1 0 0

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Philip Billingsley Walker, Esq., Secretary to the Electric Telegraph Department, and Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, were sworn, and further examined.

The Committee adjourned at 7 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 16 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Further statement by Mr. P. B. Walker, Secretary to the Electric Telegraph Department, respecting the cost of introducing a metallic telephone system in the city and suburbs in connection with the Committee's inquiry with reference to the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received, and it was ordered that the statement be published as an appendix to Mr. Walker's evidence.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

James Ormiston Callender, Esq., Consulting Electrical Engineer, was sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 17 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,
Henry Clarke, Esq.,	George Black, Esq.,

Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letters from Mr. E. Ambrose, Parramatta, and Mr. A. C. F. Webb, M.I.E.E., offering to furnish information to the Committee in relation to their inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. A. H. Byron to the Honorable the Minister for Public Works, with reference to an overhead tram on the incline principle, forwarded by the Under Secretary for Public Works for the information of the Committee, in relation to their inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

James Ormiston Callender, Esq., Consulting Electrical Engineer, was sworn, and further examined.

Alderman Charles Edward Jeanneret was sworn, and examined.

The Committee adjourned at 20 minutes past 4, until 2 o'clock p.m. on Tuesday, 21st April.

TUESDAY, 21 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,

George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. A. H. Byron, with reference to a scheme for an overhead tramway on the gradient principle in connection with the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. W. Neilley, offering to give evidence in the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. C. Baldwin, Manilla, stating that he would be prepared, under certain conditions, to give land required for railway purposes at Manilla, in connection with the Committee's inquiry respecting the proposed Railway from Tamworth to Manilla.

The correspondence was received, and it was ordered that the letter from Mr. Baldwin be printed as an appendix to the evidence taken by the Sectional Committee on the proposed Railway from Tamworth to Manilla.

The Committee proceeded to consider the proposed Railway from Nevertire to Warren.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and examined.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Arthur Clement Frederick Webb, Esq., M.I.E.E., Consulting Electrical Engineer, and Thomas Raw, Esq., Engineer, Government Architect's Branch, Department of Public Works, were sworn, and examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 22 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.,

George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. John Musson, civil engineer, on the subject of overhead railways in connection with the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Thomas Raw, Esq., Engineer, Government Architect's Branch, Department of Public Works, was sworn, and further examined.

The Committee adjourned at 10 minutes past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY,

THURSDAY, 23 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

John Pope, Esq. (Messrs. Farmer & Co., George-street), was sworn, and examined.

Philip Billingsley Walker, Esq., Secretary to the Electric Telegraph Department, was sworn, and further examined.

The Committee adjourned at 7 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 24 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. H. Deane, Engineer-in-Chief, Railway Construction Branch, Department of Public Works, with reference to the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. A. Booth, Petersham, respecting the Hobart Electric Tramway System in connection with the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways, was sworn, and further examined.

Mr. Trickett gave notice that he would move at the next meeting of the Committee,—"That the Committee proceed to consider the evidence on the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street, with a view to reporting on the subject to the Legislative Assembly."

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, the 28th April.

TUESDAY, 28 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. W. Neilley, asking for information in connection with the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Statement forwarded by Mr. P. B. Elwell, Electrical Engineer, Department of Railways, with regard to certain portions of the evidence given in the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

Mr. Fegan moved,—"That the statement forwarded by Mr. Elwell be printed as an appendix to the evidence given by him in the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street."

The

The motion was seconded by Mr. Ewing, and passed on the following division:—

Ayes, 8.	Noes, 3.
Mr. Ewing,	Mr. Clarke,
Mr. Humphery,	Mr. Lee,
Mr. Davies,	Mr. Wright.
Mr. Roberts,	
Mr. Trickett,	
Mr. Fegan,	
Mr. Hassall,	
Mr. Black.	

The following account was passed for payment:—

J. O. Callender—Fees for services as an expert witness in the Committee's inquiry respecting the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street £10 10 0

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Philip Billingsley Walker, Esq., Secretary to the Electric Telegraph Department; Paul Bedford Elwell, Esq., Electrical Engineer, Department of Railways; and Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, were sworn, and further examined.

Mr. Trickett's notice of motion for the consideration of the evidence on the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street, was postponed.

The Committee adjourned at half-past 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY, 29 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read and confirmed, after which the Committee, in consequence of the death of the late Sir Henry Parkes, G.C.M.G., adjourned until 2 o'clock p.m., on Thursday, the following day.

THURSDAY, 30 *APRIL*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

Mr. Trickett moved,—"(1) That the Members of the Parliamentary Standing Committee on Public Works desire to express their sincere regret at the decease of the late Sir Henry Parkes, G.C.M.G., and also to convey to Lady Parkes and family deep sympathy in their bereavement. (2) That a copy of the foregoing resolution be forwarded to Lady Parkes."

The motion was seconded by Mr. Davies, and passed.

The Secretary read the following correspondence:—

Letter from Mr. P. B. Walker, Secretary to the Electric Telegraph Department, enclosing a copy of a cablegram received from Mr. R. Henry, Hobart, and formerly head of the Telegraph Service in Tasmania, with respect to interference caused by electric trams, to the telephones at Hobart.

The correspondence was received.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined.

Richard Threlfall, Esq., A.M.I.C.E., Professor of Physics, University of Sydney, was sworn, and examined.

The Committee further considered the proposed Railway from Nevertire to Warren.

John Harper, Esq., Goods Superintendent, Department of Railways, was sworn, and examined.

The Committee adjourned at 5 minutes past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY,

FRIDAY, 1 *MAY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Professor Threlfall, with respect to the suitableness of the engines at the Rushcutter's Bay Tramway Power Station, for the generation of electric power in connection with the proposed Electric Tramway through George-street.

The correspondence was received, and it was ordered that the letter be printed as an appendix to the evidence given by Professor Threlfall in the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Mr. Trickett moved,—"That the Committee proceed to consider the evidence on the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street, with a view to reporting on the subject to the Legislative Assembly."

The motion was seconded by Mr. Davies, and passed.

Mr. Trickett moved,—"That, in the opinion of the Committee, it is expedient the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street, as referred to the Committee by the Legislative Assembly, be carried out."

Mr. Lee seconded the motion.

Mr. Humphery moved,—"That the motion be amended by the omission of all the words after the word 'Station.'"

Mr. Wright seconded the amendment.

The debate upon the motion and amendment was adjourned until Wednesday, 6th May.

The Committee adjourned at 15 minutes past 4, until 2 o'clock p.m. on Tuesday, 5th May.

TUESDAY, 5 *MAY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Henry Clarke, Esq.,
The Hon. John Davies, C.M.G.,	Charles Alfred Lee, Esq.,
The Hon. Charles James Roberts, C.M.G.,	John Lionel Fegan, Esq.,
The Hon. William Joseph Trickett,	Thomas Henry Hassall, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. E. Ambrose, Parramatta, with reference to light tramways and railways, and a letter from Mr. P. B. Elwell, Electrical Engineer, Department of Railways, respecting disturbing influences of tramway currents upon telephones in relation to the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received, and it was ordered that Mr. Elwell's letter be printed as an appendix to the evidence given by him in the inquiry into the proposed Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Mr. C. J. Roberts gave notice that he would move at the next meeting of the Committee,—"That a Sectional Committee, consisting of Mr. Trickett, Mr. Fegan, Mr. Hassall, and Mr. Wright be appointed to inspect, take evidence, and report with reference to the proposed Railway from Nevertire to Warren."

The following account was passed for payment:—

	£	s.	d.
Messrs. Troy & Co., typewriter agents, 71 Elizabeth-street, City, purchase of Densmore Typewriter for use in the office of the Committee	20	18	0

The Committee further considered the proposed Railway from Nevertire to Warren.

Henry Deane, Esq., Engineer-in-Chief, Railway Construction Branch, Department of Public Works, was sworn, and further examined, and Hugh McLachlan, Esq., Secretary to the Railway Commissioners, was sworn, and examined.

The Committee adjourned at 5 minutes to 4, until 2 o'clock p.m. on Wednesday, the following day.

WEDNESDAY,

WEDNESDAY, 6 MAY, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq..
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Secretary read the following correspondence:—

Letter from Mr. John Musson, forwarding plan explanatory of a deviation suggested by him when under examination during the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter from Mr. W. Neilley forwarding copy of a petition against the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Letter, with map accompanying, from Mr. H. T. Williamson, with reference to a locomotive suited to street traction in connection with the Committee's inquiry into the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The correspondence was received.

Mr. C. J. Roberts moved,—"That a Sectional Committee, consisting of Mr. Trickett, Mr. Fegan, Mr. Hassall, and Mr. Wright, be appointed to inspect, take evidence, and report with reference to the proposed Railway from Nevertire to Warren."

The motion was seconded by Mr. Lee, and passed.

The Committee further considered the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

The adjourned debate upon Mr. Trickett's motion,—"That in the opinion of the Committee it is expedient the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street, as referred to the Committee by the Legislative Assembly, be carried out;" upon which Mr. Humphery had moved, as an amendment,—"That the motion be amended by the omission of all the words after the word 'Station,'"—was resumed.

Upon the question "That the words proposed to be omitted stand part of the motion," the Committee divided as follows:—

Ayes, 6.	Noes, 5.
Mr. Ewing,	Mr. Humphery,
Mr. Roberts,	Mr. Davies,
Mr. Trickett,	Mr. Clarke,
Mr. Lee,	Mr. Hassall,
Mr. Fegan,	Mr. Wright.
Mr. Black.	

The amendment was therefore negatived.

The motion was then passed on the following division:—

Ayes, 6.	Noes, 5.
Mr. Ewing,	Mr. Humphery,
Mr. Roberts,	Mr. Davies,
Mr. Trickett,	Mr. Clarke,
Mr. Lee,	Mr. Hassall,
Mr. Fegan,	Mr. Wright.
Mr. Black.	

The Committee adjourned at a quarter past 4, until 2 o'clock p.m. on Thursday, the following day.

THURSDAY, 7 MAY, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq..
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Committee proceeded to consider their Report to the Legislative Assembly on the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intersection of John-street.

Clauses 1 to 6 were passed.

Clause 7—Need for tram service—was omitted.

Clauses 8 and 9 were passed.

Clause 10.—The City Railway.

Mr.

Mr. Black moved,—"That the clause be amended by the omission, after the word 'delayed,' in line 3, of the words 'The Mayor of Sydney is of this opinion, and for this main reason is opposed to the scheme.'"

The amendment was seconded by Mr. Trickett, and passed on the following division upon the question,—"That the words proposed to be omitted stand part of the clause":—

Ayes, 4.	Noes, 7.
Mr. Davies,	Mr. Ewing,
Mr. Clarke,	Mr. Humphery,
Mr. Hassall,	Mr. Roberts,
Mr. Wright.	Mr. Trickett,
	Mr. Lee,
	Mr. Fegan,
	Mr. Black.

The clause, as amended, was then passed.

Clauses 11 to 21 were passed.

The Committee adjourned at half-past 4, until 2 o'clock p.m. on Friday, the following day.

FRIDAY, 8 *MAY*, 1896.

The Committee met at 2 p.m.

MEMBERS PRESENT:

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Frederick Thomas Humphery,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G.,	Thomas Henry Hassall, Esq.,
The Hon. William Joseph Trickett,	George Black, Esq.,
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.,

The minutes of the previous meeting were read, and confirmed.

The Committee further considered their Report to the Legislative Assembly on the proposed Electric Tramway from Circular Quay, Sydney, to the Redfern Railway Station; and also along Harris-street to the intirsection of John-street.

Clause 22—Cost of conversion—was passed.

Clause 23—Conflicting nature of evidence.

Mr. Davies moved,—"That the clause be omitted."

The amendment was seconded by Mr. Clarke, and passed on the following division:—

Ayes, 8.	Noes, 3.
Mr. Humphery,	Mr. Ewing,
Mr. Davies,	Mr. Hassall,
Mr. Roberts,	Mr. Wright.
Mr. Trickett,	
Mr. Clarke,	
Mr. Lee,	
Mr. Fegan,	
Mr. Black.	

Clause 24—Importance of works necessitates experienced supervision—was negatived on the following division upon the question,—"That clause 24 stand clause 24 of the Report."

Ayes, 4.	Noes, 7.
Mr. Ewing,	Mr. Humphery,
Mr. Clarke,	Mr. Davies,
Mr. Hassall,	Mr. Roberts,
Mr. Wright.	Mr. Trickett,
	Mr. Lee,
	Mr. Fegan,
	Mr. Black.

The clause was therefore omitted.

Clause 25—Construction of tramway—was omitted.

Clause 26—Danger to pipes, &c.—was omitted.

Clauses 27 and 28 were passed.

The Report was adopted on the following division:—

Ayes, 7.	Noes, 4.
Mr. Ewing,	Mr. Davies,
Mr. Humphery,	Mr. Clarke,
Mr. Roberts,	Mr. Hassall,
Mr. Trickett,	Mr. Wright.
Mr. Lee,	
Mr. Fegan,	
Mr. Black,	

The Committee proceeded to consider their Eleventh General Report to His Excellency the Governor.

The Report was adopted, and the Chairman was authorised to sign it for presentation to His Excellency the Governor.

The Committee adjourned at 4 o'clock, until 2 o'clock p.m. on Tuesday, 12th May.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

Deviation at Locksley, Great Western Railway.

MINUTES OF PROCEEDINGS.

MINUTES of the Proceedings of the Sectional Committee of the Parliamentary Standing Committee on Public Works, appointed on 13th December, 1895, to inspect, take evidence, and report with reference to the proposed Deviation at Locksley, Great Western Railway.

SATURDAY, 14 *DECEMBER*, 1895.

The Sectional Committee, consisting of T. T. Ewing, Esq., Chairman, The Hon. W. J. Trickett, A. Cameron, Esq., and T. H. Hassall, Esq., accompanied by Mr. Engineer Wickham, Railway Construction Branch, left Sydney by train this morning, and on arriving at Locksley took vehicles and were driven along the route of the proposed deviation, noting particularly on the way a site at the intersection of the O'Connell-Locksley road with the new deviation, which a deputation from O'Connell pointed out as being most suitable for a new platform. The Sectional Committee then drove to O'Connell, and from there along the road to Brewongle, where the evidence of Mr. Joseph Alexander Heylin, farmer and grazier, was taken, and returning to Tarana considered their report. The Sectional Committee left the same night for Sydney, which was reached on the morning of the 15th.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

Water Supply for the Town of Tamworth.

MINUTES OF PROCEEDINGS.

MINUTES of the Proceedings of the Sectional Committee of the Parliamentary Standing Committee on Public Works, appointed on 8th January, 1896, to inspect, take evidence, and report with reference to the proposed Water Supply for the Town of Tamworth.

The Sectional Committee left Sydney at 6·15 p.m., on Friday, 10th January, arrived at Tamworth, at 4 a.m., on Saturday, 11th January, and opened their inquiry at 9·30 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq.,	Charles Alfred Lee, Esq.,
The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,

Francis Augustus Wright, Esq.

It was resolved, on the motion of Mr. Lee, seconded by Mr. Davies,—"That Thomas Thomson Ewing, Esq., be Chairman of the Sectional Committee."

The Sectional Committee adjourned at 9·40 a.m. until 11 a.m.

SATURDAY, 11 *JANUARY*, 1896.

The Sectional Committee met at the Court-house, Tamworth, at 11 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M.G.,	John Lionel Fegan, Esq.,
Charles Alfred Lee, Esq.,	Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee proceeded to consider the proposed Water Supply for the Town of Tamworth.

Mr. Charles Jeffries Britten, Mayor of Tamworth, and Mr. William Joseph Smith, alderman, were sworn, and examined.

Mr. Charles Jeffries Britten, Mayor of Tamworth, was sworn, and further examined.

The Sectional Committee adjourned at 1·10 p.m.

MONDAY,

57

MONDAY, 13 *JANUARY*, 1896.

The Sectional Committee met at the "Imperial Hotel," Tamworth, at 7·30 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M.G., | John Lionel Fegan, Esq.,
Charles Alfred Lee, Esq., | Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee, at 7·45 a.m., accompanied by J. Davis, Esq., Principal Assistant Engineer, Country Towns Water Supply and Sewerage, proceeded to inspect the pipe-line, service, and storage reservoirs, and the catchment area of the proposed Water Supply.

The Sectional Committee returned to Tamworth at 6 p.m., and at 6·15 p.m. adjourned until the following day.

TUESDAY, 14 *JANUARY*, 1896.

The Sectional Committee met at the "Imperial Hotel," Tamworth, at 8 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M G., | John Lionel Fegan, Esq.,
Charles Alfred Lee, Esq., | Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee, at 8·15 a.m., accompanied by J. Davis, Esq., Principal Assistant Engineer, Country Towns Water Supply and Sewerage, proceeded to inspect the main features of the scheme of Water Supply put forward by Mr. Gipps, C.E.

The Sectional Committee returned to Tamworth at 5·30 p.m., and adjourned at 5·45 p.m.

The Sectional Committee met at the "Imperial Hotel," Tamworth, at 8·30 p.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M.G., | John Lionel Fegan, Esq.,
Charles Alfred Lee, Esq., | Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee considered their Report.

The Sectional Committee then adjourned.

WEDNESDAY, 15 *JANUARY*, 1896.

The Sectional Committee met at the Court House, Tamworth, at 9 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M.G., | Charles Alfred Lee, Esq.,
John Lionel Fegan, Esq.,

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee further considered the proposed Water Supply for the Town of Tamworth.

Mr. Frederick Poate, District Surveyor, Mr. James Lambert, alderman, and Mr. Edward Cooper, Tamworth, were sworn, and examined.

Mr. Charles Jeffries Britten, Mayor of Tamworth, was sworn, and further examined.

The Sectional Committee adjourned at 10·45 a.m.

THURSDAY, 16 *JANUARY*, 1896.

The Sectional Committee met at the Department of Public Works, at 10 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. John Davies, C.M.G., | John Lionel Fegan, Esq.,
Charles Alfred Lee, Esq., | Francis Augustus Wright, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee further considered the proposed Water Supply for the Town of Tamworth.

The Chairman submitted a Draft Report, which was read.

It was resolved upon the motion of Mr. Davies, seconded by Mr. Lee,—"That the report be adopted."

The Sectional Committee adjourned at 11 a.m.

58

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

SECTIONAL COMMITTEE.

Railway from Tamworth to Manilla.

MINUTES OF PROCEEDINGS.

MINUTES of the Proceedings of the Sectional Committee of the Parliamentary Standing Committee on Public Works, appointed on Tuesday, 17th March, 1896, to inspect, take evidence, and report with reference to the proposed Railway from Tamworth to Manilla.

The Sectional Committee left Sydney by the 6·15 p.m. train on Friday, 20th March, and arrived at Tamworth at 3·40 a.m. the following day.

The Sectional Committee met at the "Royal Hotel," Tamworth, at 10 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., | John Lionel Fegan, Esq.,
The Hon. Charles James Roberts, C.M.G., | George Black, Esq.

On the motion of Mr. Roberts, seconded by Mr. Fegan, it was resolved,—"That Mr. T. T. Ewing be the Chairman of the Sectional Committee."

The Sectional Committee accompanied by Mr. G. L. Wilkins, surveyor, Railway Construction Branch, Department of Public Works, and Mr. C. W. Jenkins, district engineer, Roads and Bridges Branch, Department of Public Works, left Tamworth for Manilla, at 11 a.m., and inspected the route of the proposed railway.

The Sectional Committee arrived at Manilla at 6 p.m.

MONDAY, 23 *MARCH*, 1896.

The Sectional Committee met at the Court-house, Manilla, at 10 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.
The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee proceeded to consider the proposed Railway from Tamworth to Manilla.

The following witnesses were sworn, and examined:—Messrs. Charles Baldwin, grazier, Durham Court, Manilla; Edwin Oliver Watt, mine proprietor, Crow Mountain; Edward Bowman, farmer, Upper Manilla; Thomas Bowen, builder and contractor, Manilla; John Barling, grazier, Upper Manilla; Michael Francis M'Keown, farmer, Mountain View, Manilla; and Leonard Bailey, farmer, carrier, and produce dealer, Manilla.

The Sectional Committee adjourned at 1 p.m. until 2 p.m., when Messrs. Alexander Rogers, grazier, Attunga; and Alfred Horatio Sampson, farmer, Upper Manilla, were sworn, and examined.

At 3 p.m. the Sectional Committee adjourned until 10 a.m. the following day, and subsequently proceeded 10 miles towards Keepit and inspected the country between there and Baldwin's Mountain, returning to Manilla at 6·30 p.m.

TUESDAY, 24 *MARCH*, 1896.

The Sectional Committee met at the Court-house, Manilla, at 10 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.
The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

The following witnesses were sworn, and examined:—Messrs. W. J. L. Kyle, post and telegraph master, Manilla; Alfred Stafford, store manager, Manilla; William Hill, grazier and farmer, Upper Manilla; John Fitzgerald Finn, licensed surveyor, land district of Tamworth; and Andrew George Gardiner, farmer and grazier, Manilla.

The Sectional Committee adjourned at 12·30 p.m., and subsequently inspected the proposed station ground and the route towards Tamworth with a view to a deviation.

WEDNESDAY, 25 *MARCH*, 1896.

The Sectional Committee met at the "Royal Hotel," Manilla, at 10 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.
The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee left Manilla at 10·30 a.m. for Barraba, 4 miles from Manilla.

The Sectional Committee left the main road and made an inspection of the country in the vicinity of Manilla station, and on the eastern side of Manilla Creek, reaching Barraba at 5·30 p.m.

The

The Sectional Committee again met at the Court-house, Barraba, at 8 p.m., and further considered the proposed railway from Tamworth to Manilla.

The following witnesses were sworn, and examined:—Messrs. William Henry Reynolds, mine manager, Gulf Creek; Horace Hamilton Dawson, manager, Commercial Bank, Barraba; Daniel Capel, grazier, Piedmont; and Bernard Finkernagel, storekeeper, Barraba.

The Sectional Committee adjourned at 10·10 p.m.

THURSDAY, 26 *MARCH*, 1896.

The Sectional Committee met at the Court-house, Barraba, at 9·30 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee further considered the proposed railway from Tamworth to Manilla.

The following witnesses were sworn, and examined:—Messrs. Sylvester Joseph Lillis, grazier, Barraba Creek; James Waddell, Bingera; James Edward Ethridge, Horton River; and Edwin Blaxland, Horton River.

The Sectional Committee adjourned, and subsequently proceeded to Manilla, which was reached at 6 p.m.

FRIDAY, 27 *MARCH*, 1896.

The Sectional Committee met at the "Royal Hotel," Manilla, at 10·30 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee left Manilla for Tamworth at 11·15 a.m., and inspected the proposed station site, arriving at Tamworth at 5 p.m.

At Tamworth the Sectional Committee inspected that portion of the proposed line passing through the allotments within the municipal boundary.

SATURDAY, 28 *MARCH*, 1896.

The Sectional Committee met at the "Imperial Hotel," Tamworth, at 10·30 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

The following witnesses were sworn, and examined:—Messrs. Charles William Jenkins, district engineer, Tamworth; William Darley Dow, stock inspector, Tamworth; and Alexander Christopher M'Leod, auctioneer, Tamworth.

The Sectional Committee left Tamworth at 1·15 p.m., and arrived at Newcastle at 7·30 p.m., and subsequently considered their report.

MONDAY, 29 *MARCH*, 1896.

The Sectional Committee met at the "Great Northern Hotel," Newcastle, at 8·30 a.m.

MEMBERS PRESENT:—

Thomas Thomson Ewing, Esq., Chairman.

The Hon. Charles James Roberts, C.M.G., | John Lionel Fegan, Esq.,
George Black, Esq.

The minutes of the previous meeting were read, and confirmed.

The Sectional Committee further considered the proposed Railway from Tamworth to Manilla.

Mr. Rudolph Langer was sworn, and examined.

Mr. Fegan moved, and Mr. Roberts seconded,—"That the Chairman be authorised to sign the report of the Sectional Committee, and present the same to the main Committee," which was agreed to.

The Sectional Committee left Newcastle at 9·10 a.m., and arrived in Sydney at 1 p.m.

Sydney: Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

REPORT

TOGETHER WITH

MINUTES OF EVIDENCE AND PLANS,

RELATING TO THE

PROPOSED ADDITIONS

TO THE

TREASURY BUILDING.

Presented to Parliament in accordance with the provisions of the Public Works Act, 51 Vic. No. 37.

Printed under No. 10 *Report from Printing Committee,* 23 *July,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP-STREET.

[1*s.* 6*d.*] 5—*a* 1896.

MEMBERS OF THE COMMITTEE.

LEGISLATIVE COUNCIL.

The Honorable Frederick Thomas Humphery, Vice-Chairman.
*The Honorable John Davies, C.M.G.
The Honorable James Hoskins.
The Honorable Charles James Roberts, C.M.G.
The Honorable William Joseph Trickett.
*The Honorable Daniel O'Connor.

LEGISLATIVE ASSEMBLY.

Thomas Thomson Ewing, Esquire, Chairman.
Henry Clarke, Esquire.
Charles Alfred Lee, Esquire.
John Lionel Fegan, Esquire.
*Angus Cameron, Esquire.
Thomas Henry Hassall, Esquire.
George Black, Esquire.
Francis Augustus Wright, Esquire.
*Frank Farnell, Esquire.

[*On 23rd May, 1896, the Honorable John Davies, C.M.G., died, and the Honorable Daniel O'Connor was, on 24th June, appointed to fill the vacancy. Angus Cameron, Esquire, died on 25th January, and the vacancy thus caused was filled by the appointment on 17th June, of Frank Farnell, Esquire.]

GENERAL INDEX.

LIST OF WITNESSES.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

ADDITIONS TO THE TREASURY BUILDING.

REPORT.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS, appointed during the first Session of the present Parliament, under the Public Works Act of 1888, 51 Vic. No. 37, the Public Works Act Amendment Act of 1889, 52 Vic. No. 26, and the Public Works (Committees' Remuneration) Act of 1889, 53 Vic. No. 11, to whom was referred the duty of considering and reporting upon "the expediency of carrying out Additions to the Treasury Building, Macquarie-street, Sydney," have, after due inquiry, resolved that it is expedient the proposed Additions be carried out; and, in accordance with the provision of sub-section (IV) of clause 13 of the Public Works Act, report their resolution to the Legislative Assembly:—

Reference to the Committee.

1. The following extract from Votes and Proceedings of the Legislative Assembly, 18 December, 1895, will serve to show the Parliamentary action taken in the matter of the proposed Additions to the Treasury Building:—"Mr. Young moved, pursuant to Notice, 'That it be referred to the Parliamentary Standing Committee on Public Works to consider and report on the expediency of carrying out Additions to the Treasury Building, Macquarie-street, Sydney.' Question put and passed."

Present state of offices.

2. According to the evidence of the Under Secretary for Finance and Trade, the accommodation at the Treasury is totally insufficient for present requirements. That officer placed a statement before the Committee, in which it is pointed out that the Receiving, Pay, and Account Offices are unsuitable for the work now carried out therein. In the Receiving Office are kept over 200,000 accounts with Crown leaseholders and purchasers of land. The Conditional Purchase Room, a frail and unsuitable structure, holds some 210 ledgers, representing transactions in connection with 150,000 conditional purchases, and a total indebtedness to the State of over £13,500,000. In the Lease Room are sixty-seven ledgers and other books of account, representing 34,000 leases; while in the main room are 15,000 accounts, also with landholders. In the Pay Branch the accommodation for the public and the officers is altogether inadequate. The Account Branch is in a most unsuitable building, being almost unbearable in hot weather. The number of officers employed in each branch is as follows:—Correspondence Branch, 6; Record Branch, 6; Paymaster's Branch, 9; Receiver's Branch, 32; Accountant's Branch, 20; Examiner's Branch, 5.

The proposed Additions.

3. The proposal before the Committee is to erect entirely new accommodation for the Conditional Purchase and the Conditional Lease Branches, as well as for the public. The northern building is therefore designed to meet these requirements, and to contain proper desk space of 542 feet, with a net area of 3,000 feet. It is proposed to so construct as to give security against fire, and to include a gallery in which the Conditional Lease Ledgers can be used, and the officers of the Receiver accommodated while the second portion of the scheme is being erected. The second portion of the scheme, to cover the site between the new Strong Room and the existing building, is to provide accommodation for the Receiver and the public, also for the Accountant. The complete scheme will provide 15,250 super. feet, as against

8,674

8,674 super. feet present floor space. The floor space per officer will therefore be 136 feet super., as compared with 146 feet super., the average accommodation for officers in the Mines, Lands, and Works Departments. The Strong Room accommodation should not, however, be calculated only with regard to the number of officers engaged, but, as shown above, by the number of ledgers in use. The rooms designed are all large, so that each branch can be accommodated in separate apartments. The portion of the existing building to be vacated by the Receiver, it is proposed should be remodelled and occupied by the Paymaster. The Bridge-street elevation will remain unaltered, and it is intended to utilise the existing building, with its good stone front and substantial external wall, as a starting-point for the design of the whole, so that necessarily the Additions will, as far as possible, be erected in stone.

Estimated cost.

4. The cost of the works is estimated at £21,500, viz. :—Strong Room, including the extra cost of building in fire-proof materials, £9,000; second portion, £9,500; fire-proof shutters, &c., £3,000. Funds are already available from Loan Votes for carrying out the work.

The Committee's inquiry.

5. The Committee have had before them the following witnesses :—The Under Secretary for Finance and Trade, who was examined respecting the accommodation at the Treasury Building, and also the proposed alterations; the Government Architect, who prepared the plans and specifications for the carrying out of the Additions; the Auditor-General; the Clerk-in-Charge of the Sales Division, Department of Lands; and the Secretary to the Public Service Board.

Necessity for the proposed work.

6. The proposed Additions to the Treasury Building are regarded as being absolutely necessary—

(1) In the interest of the general public.
(2) For the due safety of valuable Public Records.
(3) For the proper accommodation of the Departmental officers.

Decision of the Committee.

7. The Committee have unanimously affirmed the expediency of carrying out the proposed Additions.

Resolution of the Committee.

8. The following extract from the Committee's Minutes of Proceedings of Wednesday, 15th July, will show the resolution arrived at by the Committee :—

"Mr. Fegan moved—

'That, in the opinion of the Committee, it is expedient the proposed Additions to the Treasury Building, as referred to the Committee by the Legislative Assembly, be carried out.'

"The motion was seconded by Mr. Wright, and passed."

THOS. EWING,
Chairman.

Office of the Parliamentary Standing Committee on Public Works,
Sydney, 17 July, 1896.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MINUTES OF EVIDENCE.

ADDITIONS TO THE TREASURY BUILDING.

THURSDAY, 9 *JANUARY*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. James Hoskins.	Angus Cameron, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.	Francis Augustus Wright, Esq.

The Committee proceeded to consider the proposed Additions to the Treasury Building.

Francis Kirkpatrick, Esq., Under Secretary for Finance and Trade, sworn, and examined:—

F. Kirkpatrick, Esq. 9 Jan., 1896.

1. *Chairman.*] You desire to make a statement to the Committee showing the accommodation at the Treasury, and also the proposed alterations? Yes. It is as follows:—

Treasury.—Accommodation and Staff.

First Floor.

Rooms for the Colonial Treasurer. Room for the Under Secretary. Two waiting rooms.

Correspondence Branch.—Room 1, 17 ft. x 12 ft.—Clerk of Correspondence. Room 2, 18 ft. x 12 ft.—1 clerk (Funded Stock). Room 3, 23 ft. x 13 ft.—4 clerks. (Includes accommodation for records.)

Record Branch.—Room 1, 15 ft. x 14 ft.—Registrar. Room 2, 21 ft. x 14 ft.—5 clerks. (Includes accommodation for records.)

Ground Floor.

Paymaster's Branch.—Room 1, 15 ft. x 27 ft.—3 clerks; this includes accommodation for public. Room 2, 23 ft. x 12 ft.—5 clerks. Room 3, 13 ft. x 12 ft.—Paymaster.

Receiver's Branch.—Room 1, 36 ft. x 25 ft.—Chief Receiving Office, 14 clerks. Room 2, 72 ft. x 20 ft.—Conditional Purchase Room, 13 clerks. Room 3, 17 ft. x 14 ft.—Lease Room, 4 clerks. Room 4, 19 ft. x 13 ft.—Receiver.

Accountant's Branch.—Room 1, 18 ft. x 24 ft.—5 clerks, sometimes 6. Room 2, 18 ft. x 19 ft.—Accountant and 2 clerks. Room 3, 18 ft. x 43 ft.—11 clerks. Room 4, 18 ft. x 8 ft.—1 clerk.

Examiner's Branch.—Room, 24 ft. x 18 ft.—Examiner and 4 clerks.

Proposed alterations to Treasury.

The proposed alterations are mainly for the purpose of giving better accommodation to the Account, Receiving, and Pay offices.

1. *The Receiving Office.*—There are kept here over 200,000 accounts with Crown leaseholders and purchasers of land. In the Conditional Purchase room—a frail and temporary building, liable to considerable risk by fire—there are 210 ledgers, representing 150,000 conditional purchasers, and a total indebtedness to the Crown of over £13,500,000.

In the Lease room, there are sixty-seven ledgers and other books of account, representing 34,000 leases; while in the main room, in addition to the general business of licensing and other miscellaneous matters, there are 15,000 accounts, also with land-holders. Of more importance than the inadequate accommodation in the office is the constant danger and almost irreparable loss which would result by fire.

2. *The Pay Branch.*—The accommodation for the public is but 22 ft. x 6 ft., hardly sufficient for twenty people. It is no uncommon occurrence to find sixty people at one time crowded in this space. The accommodation for the clerks is wretched, and is in close proximity to the latrines, &c.

3. *Account Branch.*—This is a most unsuitable building, but 18 feet wide, divided into four rooms; the ceilings are 10 feet high. It is almost unbearable in hot weather. At one end it is above the kitchen of the housekeeper; and at the centre it is over five filled-up and now unused cesspits.

The additions comprise a new receiving office and a strong-room for the Land Account ledgers. It is proposed to shift the Paymaster and staff to the present Receiving Office, and temporarily accommodate the Accountant and staff in the iron room now occupied by the Conditional Purchase staff, until better and more permanent accommodation is provided.

F. Kirkpatrick, Esq. 9 Jan., 1896.

If the proposed additions are carried out the temporary buildings will be at once pulled down. With regard to the conditional purchase records, I should like to mention that they are the only perfect records of the conditional purchasers' accounts in existence, and I may add to my observations in regard to the crowding which sometimes takes place at the Treasury, that I have at times seen thirty or forty persons waiting outside unable to get in to transact their business. I think the statement I have read affords my main reasons for advocating these additions. The temporary buildings are very unsafe, and there is very little accommodation for the public, and the accommodation for the clerks is altogether inadequate.

2. *Mr. Trickett.*] What is the estimated cost of the new building? I believe the strong-room is to cost £9,000, and the other room £13,500, making a total of £22,500.
3. Is it proposed to pull the old building down? No; only the temporary portion—the wooden portion which was erected temporarily.
4. Have you been in conference with Mr. Vernon about the arrangement of the building? Yes.
5. I have often wondered why in public offices the clerks are not located as they are in the case of some of our large financial institutions; there you see a number of clerks in one large room where they are under the eye of the head of the Department? That idea is being carried out in the proposed Department. The head of the Receiving branch, for instance, will be able to oversee the whole of his branch.
6. You think that is a desirable plan to carry out? Yes; it is proposed, when the old buildings are pulled down, to remove the Accountant and staff to a room upstairs in the additional building. The Chief Accountant will then be able to properly supervise the whole of his staff.
7. The buildings are to be constructed then upon more modern ideas? Undoubtedly.
8. Has the staff in the Treasury increased largely of late? It has increased, but not of late. There is not sufficient accommodation in the Treasury for the inspecting staff. They are in a house in Richmond Terrace.
9. Can you give us any information as to the increase of the staff within the last three years? I do not think there has been any increase within the last three years. There may have been a few temporary clerks appointed on special work, but I do not think there have been any permanent appointments during the last three years unless to fill vacancies.
10. Were there many appointments during the preceding three years? I do not think there were.
11. What is the number of the present Treasury staff? About eighty.
12. You are forced to the conclusion that the present accommodation is utterly inadequate for the staff and for the public? Yes.
13. I believe this has been a matter of public complaint for some time? Yes.
14. Can you tell us whether it is intended to increase the staff? No—not to my knowledge.
15. This proposal is not made in view of any proposed increase to the staff, but is intended to carry out present requirements? Yes, and to afford the necessary accommodation to the public.
16. I see £9,000 is to be expended upon the strong-room;—is that necessary? Yes.
17. What will it be used for? For auction sale and conditional purchase registers. I may say that these show the whole of the monetary transactions in connection with each purchase, together with the balances due to the Crown. If they were destroyed the Treasury would be placed in great difficulties.
18. How are they kept at present? In a temporary building I am sorry to say.
19. Not in a strong-room? No.
20. What will be about the size of the strong-room? It will be a large chamber with galleries.
21. On looking at the recent report of the Civil Service Commission, I find it is stated that it is worth consideration as to whether the money dealings with the conditional purchasers should not be attached to the Lands Department;—what do you think of that proposal? I think it would be a great mistake to take these dealings away from the Treasury. People come there and expect to receive information as to the state of their balances. We are asked every day what are the balances upon certain conditional purchases so that they may be paid.
22. The Commission regard it as an inconvenience to the public that they should have to go to the Lands Department for one dealing in connection with their land and to another building for another dealing or for other information;—do you not think it would be well to establish a branch of your office in the Lands Department? No; I think we should have the controlling supervision. It would be a mistake to split up the Treasury.
23. But all through the country money is received through the local land agents in the same building in which they carry out other land transactions? They receive the money on our behalf, and remit it to us.
24. Then why could you not have Treasury officials at the Lands Department in Sydney? There would be a divided responsibility, and we believe it would not be so convenient to the public.
25. The officers would only be divided from you by the eighth of a mile of space between the Departments? We could not possibly have the same control and supervision over them in the Lands Department as we have in the Treasury, and it would be extremely inconvenient to pay money into the Lands Department when it would all have to be collected by the Treasury.
26. Does it not seem to you rather inconvenient that owing to the separation of the two Departments, persons should have to run from one to the other? That is the very thing which I am contending should be avoided. We can give persons the information they require now. We could not give them that information if the Lands Department kept the books. So far no complaints on the part of the public have been made.
27. Why could you not give them the information if you had an office there? There would be serious difficulties in the way.
28. Will you explain what the process is in dealing with moneys received from conditional purchasers—that is as to its receipt, application, and audit? When the money comes to us from the Crown Lands Agents, it is put to the credit of the various accounts concerned.
29. Are there not two sets of books, one kept at the Treasury, and the other at the Lands Department? Not that I am aware of. I only know of two sets, so far as the collection of Revenue is concerned. One is kept at the Treasury, and the other at the Audit Office.
30. You do not deal with any matters in your office in connection with the transfer of lands? We note each transfer.
31. Supposing a man comes to you and pays a certain amount of money, and then wants to deal with his land—supposing he pays his balance—he has then to run off to another office to get the title? We can

give

F. Kirkpatrick, Esq. 9 Jan., 1896.

give him a certificate under the 99th section of the Real Property Act that the balance has been paid. He has also to obtain a certificate from the Lands Department that the conditions as to residence, &c., have been fulfilled, but application need only be made to the one Department for both these certificates.

32. Then you do not think it would simplify money matters, to have money transactions in connection with conditional purchases dealt with at the Lands Department? I do not think it would.

33. You say that one of the two sets of books is kept at the Audit office? Yes.

34. What books are they at the Audit office? Registers for the purposes of audit, but they do not show the names of the holders. They get all our vouchers which are sent to them under the Audit Act.

35. One would think that it would be better to have the Audit office in the same building as the Treasury? I think not.

36. Would it not be better to have the two Departments under the same roof? I think not.

37. Has there been any conflict between your Department and the Department of Lands in reference to land matters? No; I do not think there has been any conflict. There may have been a difference of opinion.

38. Has it been of such a character as to involve any public inconvenience? Certainly not.

39. Is it of frequent occurrence? No.

40. It would only arise in exceptional cases? Yes; of course, the Secretary for Lands has full control.

41. Were you aware of the existence of the paragraph to which I referred in the report of the Civil Service Commission? Yes, I read it.

42. Were you asked about the matter when the Civil Service Commission was sitting? Not as far as I can remember.

43. Has an elevation of the proposed building been prepared? Yes.

44. Has it been submitted to you and approved of by you? Yes; by the Minister and by myself.

45. As far as the plan indicates there does not appear to be any undue interference with the present tramway lines by the proposed alterations? No.

46. It is a peculiarly shaped building, is it not? It is part of a plan to be hereafter worked out in one large building.

47. The present elevation or block plan is so designed as to be capable of further enlargement if necessary? Yes.

48. In which direction would that enlargement go? I think the building would be extended down Bridge-street; but the buildings now planned would meet the Treasury requirements as far as they can be foreseen for many years. The conditional purchase room was put up in 1880, fifteen years ago. It is constructed of wood and galvanised iron.

49. It has answered the purpose for fifteen years? Yes; but the trams have not been running alongside of it the whole of that time,

50. Do you not think the proximity of this important building to the tramway line is rather a disadvantage? It is a very great danger.

51. So far as the present temporary buildings are concerned? Yes.

52. Is it not a disadvantage by reason of the noise? More so by reason of the dirt, than anything else.

53. Will not that inconvenience still obtain when you get the new building? Not to so great an extent as it does now, because the temporary buildings are so close to the tramline.

54. *Mr. Cameron.*] Do you find that the work of the Treasury is impeded, or that the employees are annoyed by the noise of the trams? They do not notice it now.

55. *Mr. Trickett.*] When you get a substantial stone building that trouble will be greatly reduced? Yes; we shall be further away from the tram line.

56. The thicker walls will take away the noise to a certain degree? Yes.

57. Do you look upon this work as an absolute necessity in the interests of the employees, as well as in the public interest? Yes.

58. I believe that on certain days the little room in Macquarie-street—the little pay-room—is absolutely packed by people who have the greatest difficulty in getting in or out? Yes; at times they cannot get out by the way they come in. We have to open a little door at the end of the room, and let them out by another door.

59. That has been a great public grievance? Yes.

60. There is no way of curing it, and of meeting the other existing requirements, except by enlarging the building, as indicated by this plan? I do not think there is any other way.

61. *Mr. Lee.*] I understand it has been the policy of various Governments, in years past, to transact the monetary portion of their land business at the Treasury? Yes.

62. All the records of the Colony, so far as the lands are concerned, are at the Treasury? Yes; all the records of the monetary transactions.

63. You say they are now kept in a temporary building? Yes; all the conditional purchase registers.

64. What would be the result to the selectors of this country if the books containing the records of their transactions were destroyed? It would result in great confusion and annoyance.

65. Would it not involve an amount of confusion which could not be put straight? It would involve terrible confusion. I do not know that it could not be put straight eventually; but things would not be as they are now.

66. That is a strong reason why there should be a substantial strong room in which to keep these records? Yes.

67. And there is no better place to make this strong room than at the Treasury? No.

68. If the monetary portion of the land business were transacted at the Lands Department, would it not be necessary to put up a strong room there? They have a strong room there, but they required it for their own purposes.

69. But the constant removal of the ledgers would involve an enormous amount of manual labour? Yes.

70. Your proposal is to have a strong room so constructed that the clerks will be able to make use of the books in the ordinary way? Yes.

71. In addition to this, the requirements of the country have outgrown the accommodation of the Treasury building? Yes.

72. As regards this proposal of the Commission that the monetary business of the Lands Department should be carried out in that Department, and not at the Treasury, is it not held to be one of the first principles

F. Kirkpatrick, Esq.

9 Jan., 1896.

principles of government that as few persons as possible should handle the money of the State? Yes.
73. Consequently that is a strong reason for the existence of a State Treasury. It is intended to be the sole depository of State money? Yes.
74. It should be, as far as possible, the sole collector? Yes.
75. At the present moment no other Department collects any moneys except by way of fees? Of course there are Land officers throughout the country who are Treasury officers for the purpose of collecting revenue.
76. That would be in the country districts for the convenience of the people? Yes.
77. I am speaking of the various Departments in the city. Nothing but fees would be collected by them? The Customs Department collect their dues, and the Railway authorities collect their receipts, and pay the amounts over to the Treasury.
78. If it were necessary to have a branch of the Treasury to conduct business in the Lands Department, would it not be equally necessary to have a branch in the Mines Department? It might be equally necessary, but it would be inconvenient. The Mines Department does not collect much revenue beyond the Regulation Fees in Sydney.
79. Would not the existence of the various branches lead to immense inconvenience and delay? It would.
80. Apart from the fact that you are the permanent head of the Treasury Department, can you offer any suggestion by which the revenue of the country could be collected in an easier and safer manner than at present? No; I think everything is done in the best and safest manner. I think the present arrangement is as advantageous as it is possible for it to be, but we are always endeavouring to improve the methods.
81. As a matter of principle, you hold that the Treasury should be the sole depository of the records of the monetary transactions of the State in connection with land and other matters? Yes.
82. *Mr. Clarke.*] I presume there would be considerable inconvenience attaching to the carrying out of the suggestions of the Civil Service Commission for the establishment of a branch of the Treasury in the Lands Department? There would be very great inconvenience.
83. Can you receive any money from the sale of land without authority being sent to you from the Lands Department stating how much is to be paid? We are advised in the first instance of all sales. No reference is necessary to the Lands Department after that, unless application is received for some special concession, or in cases where forfeiture has been incurred.
84. But you could not receive any money in respect of land unless you had authority from the Lands Department? We could put the money in suspense until we got the details. We receive statements from the Land Agents showing the details—showing the price of the land and deposit money.
85. After the first record in the Treasury, there is no necessity to refer to the Lands Department? Not if the money is paid within the proper time.
86. Who sends the notices if the payments are in arrears? The Lands Department are advised once a year by the Treasury of all selections in arrear, and that Department after investigation communicates with the selector.
87. As to the present Receiving Branch of the Treasury, are not all the various clerks under the supervision of the head of that Department? They are under his supervision, but he cannot see them all.
88. They are not in separate rooms? Yes, in three rooms.
89. You will have a similar plan in the proposed new building? In the new bullding the head of the Branch will be able to see, not only one or two of the clerks under him, but all of them. It is intended to bring that arrangement into existence as far as possible.
90. Would it not be better to wait a little longer, and have an entirely new building? I think it would be very dangerous to wait.
91. You are having regard to the present character of the building, and the necessity for having the conditional purchase records kept in a place of safety? I am also considering the convenience of the general public, who, at times, have to suffer extremely when they visit the Treasury, owing to the want of accommodation.
92. *Mr. Fegan.*] When did you first discover the necessity for these alterations? They have been under consideration for a great number of years.
93. Have you represented to the Government the necessity for a more secure building? Yes. The first duty I have felt incumbent upon me when a new Treasurer has taken office has been to take him round the building, especially the conditional purchase room, and to show him the condition of matters.
94. The fear of fire has been in your mind for some years? Yes.
95. Have you any books in your office in connection with the Department of Mines? Yes. We keep accounts with lessees of mineral and gold leases, tanks and wells, &c., &c
96. Did the Civil Service Commission recommend any reduction in the staff of your Department? Not that I am aware of. I do not think they had sufficient time at their disposal to enable them to inquire into the duties of the various officers.

FRIDAY,

FRIDAY, 10 *JANUARY*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. James Hoskins.	Angus Cameron, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
Henry Clarke, Esq.,	Francis Augustus Wright, Esq.

The Committee further considered the proposed Additions to the Treasury Building.

Francis Kirkpatrick, Esq., Under Secretary for Finance and Trade, sworn, and further examined:—

F. Kirkpatrick, Esq. 10 Jan., 1896.

97. *Chairman.*] You have some further evidence to give? Perhaps I may be allowed to make a little statement by way of explanation. Speaking of the conditional purchase ledgers yesterday, I said there were two complete sets. I meant with reference to the accounts. There is a complete set at the Treasury, and each Crown Lands Agent keeps the accounts with the conditional purchasers in his district. There is a record of these purchases at the Lands Department, but solely for the purposes of title. The registers at the Audit Office are, as stated by the Auditor-General, mere instruments for the purposes of audit.

98. In the books of how many Departments is this information contained? I am not aware that the information as given in the Treasury books is contained in the books of any other Department. The Audit Office has much the same information, with the exception that they do not give the names of the holders of land.

99. Would the holders of the land be identified by number? It would not, I think, be a safe means.

100. Would not the books in the Audit Office enable the Department of Lands to ascertain the balance owing by conditional purchasers? I doubt it.

101. In point of fact, all the information necessary in connection with every conditional purchase could be obtained elsewhere than in the Treasury? Yes; from the Land Agent's books.

102. If your books were destroyed by fire the information contained in those books could be obtained in the Audit Office and the Lands Office? Yes. When I said that a fire would be disastrous, I did not mean with respect to the conditional purchase registers alone, but referred to all the records. Then there is another point which I would refer to. That is in reference to the information about the selectors. The question was asked which Department notified the selector of his arrears. I find that the practice is for the Treasury to report the matter to the Lands Department, which Department issues circulars to the selectors.

103. *Mr. Hassall.*] How many officers have you in the Treasury Department? About seventy-five or seventy-six in the building, and there are six outside, for whom we have not accommodation.

104. And you contend, as head of that Department, that the accommodation provided is totally insufficient to enable you to carry on the business of the Department with any degree of comfort or efficiency? I do undoubtedly.

105. You also complain that there are valuable Government documents stored in that building which are liable to be destroyed at any time, because you have no safe place in which to deposit them? Yes.

106. In the event of fire nothing could save them? No.

107. The building in which those valuable documents are at present is of so flimsy a nature that in the event of a fire the probability is that all those buildings would be consumed? I am afraid so.

108. Are there not other documents there besides documents having reference to conditional purchases? Yes.

109. There are documents besides those connected with the Lands Department; and if those documents were destroyed could they be replaced? Yes; some could be, but it would be at very great labour and expense. It would be utterly impossible to replace others.

110. They date so far back that you are doubtful whether any duplicate records exist? I believe they exist in some cases, but not in others—notably those relating to quit rents.

111. But if those documents did happen to be destroyed in the Treasury building, the country would suffer very great loss and expense in replacing them? Yes.

112. Are you of opinion that the proposed extension will give you ample accommodation for carrying on the operations of the Treasury? Yes; I have gone over it with the Receiver and the Accountant, and I think it will give us ample accommodation for many years to come. It is possible that the business of the Funded Stock may largely increase, as I believe it will, and it may cause some modification of present ideas, but even then it will give sufficient accommodation for many years.

113. And in the event of a number of officers being transferred if any change should take place in connection with the land documents, how many officers would you use? I suppose they would take eight or ten; I could not say.

114. They would take from the Treasury eight or ten officers now employed in dealing with land matters? Yes; but I think the Receiver will be better able to speak on that subject than I am. The business of the Treasury is so varied and extensive that no one person knows all the details. I know the general working of the Department, but the heads of the branches know better than I do the details of the working of each particular branch.

115. In the event of ten or twelve officers being transferred from your Department to the Lands Department, are you of opinion that increased accommodation would still be necessary to enable you to carry on the business of the Treasury? Yes; and to afford accommodation to the public.

116. And in all probability the operations of the Treasury will increase, more particularly in connection with the Funded Stock? I believe so. The sales are very few now on account of the premium required, but by-and-bye it will come to be a large business, I have no doubt, and will necessitate much greater accommodation than can now be afforded.

F. Kirkpatrick, Esq. 10 Jan., 1896.

117. Therefore, in your opinion as Head of that Department, it is absolutely necessary that some additional accommodation should be provided? It is absolutely necessary.
118. The present accommodation is of a totally unsatisfactory character, and to a certain extent detrimental to health? It is undoubtedly. The accommodation for the public in the paying branch is very bad.
119. *Mr. Cameron.*] You said that you had 147,000 accounts for conditional purchases, and 210,000 other accounts passed through the office;—does that 210,000 include the 147,000? I think there are 250 ledgers containing 210,000 accounts.
120. It seems that the efficacy of your Department suffers through the mode in which these documents have to go through other offices;—for instance, you have some connection with the Audit Office, have you not? No; I do not know of any, beyond that for audit purposes.
121. What did you mean in speaking of other Departments gathering your accounts? The Mines Department would receive the collections of the Mining Registrars instead of their being paid direct to the Treasury if the recommendation of the late commission was carried out.
122. What do you complain of? I do not complain.
123. You do not suggest that that system should be altered? No; we do not consider that the system should be altered.
124. I understood you to say that you were deprived of the opportunity of exercising supervision over other Departments? No; what I meant was that we should be if certain changes were carried out.
125. And you are of opinion that the efficient working of your Department would be facilitated if you get the proposed alterations which have been submitted to the Committee? Undoubtedly.
126. Have you been consulted in reference to them? Yes; I have gone all through them with the Architect or his officers.
127. *Mr. Wright.*] Do you think the present site as suitable a one as you could have for the Treasury? Yes; but for the annoyance occasioned by the tram traffic.
128. In making the alteration, I suppose the old building would have to be gutted and remodelled altogether? No; I do not think it is intended to touch the old building, except to take down the temporary accommodation that has been provided by the erection of frail structures.
129. Do you consider the present building will be suitable if the temporary buildings are removed? Yes; but it would be much better if we had not the tram lines there.
130. Is the site as suitable as it might be? I do not know of any better site.
131. When the temporary buildings are removed will the building then be a proper one to carry on your work in? Yes; for a time the new buildings will be suitable.
132. As a matter of fact, the entire office should be a new building? I would not advocate it.
133. If you had the designing of the building would you have any portion of the present buildings included in it? I do not think it would be right to abandon the old building.
134. You do not think that site the best? It is, except for the tramways.
135. There is a vacant piece of ground in the immediate vicinity where a building could be erected—the corner between Young-street and Phillip-street? I do not see that any advantage would be gained by changing the site.
136. With regard to this matter that Mr. Lockyer refers to, I understand that there is no change contemplated in the system of working the Treasury? No; it was a recommendation by the Commission, but it was not carried out.
137. It was never contemplated? No; but the Minister saw Mr. Lockyer's paper on the subject.
138. Is there any reason to believe that the Minister contemplated any change? No; I believe he did not.
139. You think that your present system is perfect as regards collecting the revenue of the country? It is not perfect, but it is a great improvement on what formerly obtained. We are endeavouring to make it as perfect as circumstances and material will permit.
140. There is no desire to change it, and no change is contemplated? None whatever.
141. And if you get the proposed additions to the Treasury, that is pretty well all you will require? Yes; for many years to come.
142. *Mr. Hoskins.*] I am not quite satisfied with the reply you gave to Mr. Hassall about the papers in your Department;—supposing it was determined that the Treasury should have nothing to do with land at all, would the building then be sufficient for the protection of papers connected with Treasury business only? No. The present accommodation is very bad. The rooms are not at all suitable. They are unhealthy, and not sufficiently protected from the risk of fire.
143. Is it your opinion that if the land business is taken away from the Treasury the buildings will be sufficient to prevent the destruction of papers belonging to the Treasury Department proper? No; there is a great element of danger in the trams running alongside of the temporary buildings.
144. But have you no strong-rooms in the Treasury at present? We have a vault, but we could not take the books up and down stairs, and even if that were possible the vault is most unsuitable.
145. Has it been the case ever since the Treasury buildings have existed, that the books and cash have not been taken out of the office and deposited in the strong-room at nights? The cash is deposited in the Bank every evening. The funded stock and other principal books are put into the safe. But it is impossible to do this with the land registers. There are so many of them, and they have to remain on the desks.
146. Then danger to the records in the Treasury might be brought about by the accumulation of papers connected with the Department of Lands? There is no great accumulation of such papers, and the risk of fire referred to arises rather from other sources.
147. Have you never made application to the Treasurers of different Governments to have a strong-room built in which the principal records of the Department could be put at night? What is now proposed is the outcome of such an application as you refer to.
148. Has not that been brought about by the accumulation of papers in the Treasury connected with the alienation of lands? No; all the vouchers are sent to the Auditor-General in connection with such receipts.
149. They have never had a proper secure room in the Treasury even before the Lands business accumulated? Never.
150. Did I understand you to say yesterday, that the Treasury Department received a notification from the Crown Lands Agents in the country of the payment of moneys on account of lands, and the business goes

F. Kirkpatrick, Esq.
10 Jan., 1896.

goes through the Treasury and the Land Agents in the country, but that any persons coming to Sydney to pay for Crown lands or balances of purchase-money would go to the Treasury and pay the money without reference to the Lands Department? Certainly.

151. If a private individual comes to Sydney and desires to pay the balance of his purchase-money for land or for improvement purchases, does he not first go to the Lands Department to get a notation on the papers, then take it to the Treasury, where the money is received? No; we receive the money and deal with it at once.

152. *Mr. Humphery.*] Assuming that the recommendations to which you refer as having been made by the Royal Commission were carried out, what difference would it make in the number of officers under your control in the Treasury? I really could not answer the question definitely, but there might probably be a difference of ten or more.

153. That would leave how many? Sixty-five, or thereabouts, in the old building.

154. Would the site proposed for the Mines Department be suitable for the Treasury? I do not know the site to which you refer.

155. It is opposite this building? I think we would rather retain our present site.

156. Apart from any sentiment connected with the present site, and taking a practical view of the requirements of the city, and this vast business carried on at the Treasury, would not the site selected for the Mines Department be suitable for the Treasury? Not so suitable as the present site if the tramways were removed.

157. Would not the site for the Mines Department be more suitable? No; I think not.

158. *Mr. Cameron.*] Do you hear any loud complaints about the trams from those whose business takes them to the Treasury? It is possible that people have complained.

159. It has not reached your ears? I have heard of it.

160. *Mr. Humphery.*] How many frontages are there to the site proposed for the Mines Department? There are two, I know. If the space occupied by the terrace be utilised, there would be three.

161. With three frontages, do you think the objection referred to would exist? I think that even with three frontages the Treasury site is better situated both for the public and for the Department.

162. *Mr. Davies.*] In the event of the Lands Department taking over the control of the revenue derived from the lands, would that so relieve your Department as to obviate the necessity for this increased accommodation? No; I do not think it would.

163. What is the total amount under the head of land revenue received in your Department from all sources? I could not speak decidedly unless I referred to the books. I think it is over £1,000,000.

164. What is the total revenue received through the Treasury during the year? Over £9,000,000.

165. And only one-ninth of that is paid by the Lands Department? I thought you meant revenue exclusive of land sales.

166. The total revenue from sales, conditional purchases, rents, and everything? It is a little over £2,000,000.

167. And you say that only eight or nine officers do all the business connected with the revenue of £3,000,000 from the land? No. The officers of the branch help each other. They all work together. The full strength of the Revenue Branch is frequently necessary to cope with the land business.

168. I think you said that if the conditional purchase registers were transferred to the Lands Department eight or ten clerks would be transferred with them? I could not speak decidedly on that point.

169. For the collection of the land revenue would it be necessary to have more than eight or nine employees from the Treasury? I could not say.

170. Supposing you split up the Department, and a large portion of the revenue now collected by the Treasury were collected by the Lands Department on the one hand and by the Mines Department on the other, would not that relieve your Department of a very large amount of officialism? It would to a certain extent.

171. You would have to keep up the same staff? Yes; with the exception of the officers who might be taken from the Receiving Branch.

172. Do you advocate that the financial transactions of the Government should be done absolutely by the Treasury, or by the several Departments? By the Treasury, as at present, the risk being much less.

173. You find that the present system works well? Yes.

174. Has it worked well in the past? Yes.

175. To your great satisfaction? There have never been any frauds in the Treasury.

176. Then, from your long experience of the Treasury, you would not favour a change such as that proposed by the Civil Service Commission? I would not.

177. On what grounds? On the grounds of general economy and efficiency.

178. Do you think there would be greater efficiency in the Treasury than in the Lands Department? I think so; the men being trained to the business.

179. If you transferred the men to the Lands Department would they not still know the business? Yes; but we could not be responsible for people once they went to another Department. We are responsible now, and the work is well done.

180. Would the work be more economically managed if managed by the Lands Department direct, independent of the Treasury? I do not think it would.

181. Can you tell the Committee the percentage of cost of the collection of the land revenue from all sources? I could not.

182. Your primary object in coming before the Committee is to get better accommodation for the officers of your Department? Yes; and for the public.

183. Although the land revenue might be collected in another way, you would still require this additional accommodation? Yes.

184. Have you suggested to the Colonial Architect, or has he suggested, that an additional story should be put upon the present building. That has been talked of; but I do not think it ever went beyond the mere statement that it might be advisable.

185. If an additional story were put upon the present buildings, would it not give better accommodation than you are likely to get from the carrying out of the proposed additions? No; it would not give us a strong-room.

F. Kirkpatrick, Esq. 10 Jan., 1896.

186. You have had no estimate from the Architect of the cost of an additional story? No; there was a question as to whether the walls would bear an additional story, but I think it never went so far as an estimate.
187. No doubt was expressed as to the capability of the building to carry another story? No.
188. Would not that give you a very large additional accommodation? It would not give us a strong-room, which we are anxious about.
189. Supposing that an additional story were put on and a strong-room—a fire-proof room—were built, would there not then be sufficient accommodation for all purposes? I do not think that matter has been fully gone into. I think it would not give such accommodation as the plan now proposed.
190. Your temporary building at the back gives accommodation for eight or ten clerks; would it not give more accommodation if an additional story were erected? It is intended to take down the old Account Branch, in addition to that temporary structure, and we accommodate seventeen or eighteen clerks there as well as in the Conditional Purchase Branch.
191. In the temporary building where the conditional purchase business is at present done, has there at any time been an alarm of fire? No.
192. But at the Treasury buildings there has been an alarm of fire? There was a slight outbreak in the housekeeper's quarters a long time ago.
193. What is the balance owing by conditional purchasers? Over £13,000,000.
194. Then, in the event of a fire taking place and the books being destroyed, how would you get at the records? The Auditor-General keeps an abbreviated account, and the Land Agents throughout the Colony have registers.
195. If the Lands Department takes up that particular portion of the Treasury work, have they got accommodation for the books? I could not answer that question.
196. Is it the principal object of your Department to get security provided by the erection of a strong-room for these books and other valuable documents? That is one thing, but we require as well accommodation for the staff and the public.
197. In your proposal you suggest the transfer of the portion of the building where the payments are made, and reversing the order of things? We would transfer the Pay Branch to the Receiving Branch, and the Receiver would go into the new premises.
198. What do you propose to do with the present part of the building where they receive payments? That would be utilised in other ways.
199. In what ways? It would form part of the new Receiving Branch. The Receiving Branch will be over the yard, and will adjoin the strong-room.
200. Have you made yourself thoroughly familiar with the proposal now before the Committee? Yes.
201. Do you believe that the accommodation you seek will be provided by carrying out this proposal? Yes; I firmly believe it will.
202. Would you favour the erection of an additional story upon the main building as well as upon the proposed new building? There would be no necessity for that for many years to come. It might destroy the appearance of the building to put another story upon it.
203. You have had no report from the Architect upon the subject? No.
204. *Mr. Lee.*] If a new site were selected it would necessitate the erection of an entirely new building? Undoubtedly.
205. Whereas at present you propose to utilise the present building as far as possible? Yes.
206. Do you concur in the following, which I will quote from the report of the Royal Commission:—"While dealing with the Treasury Department, we deem it necessary to point out that the building is altogether unsuitable for the proper carrying out of the work of so large and important a branch of the Service. The want of convenient arrangement is so manifest that we think only one course should be followed, and that is, to demolish the interior and build better lighted and more convenient rooms"? That is rather sweeping. We can utilise the interior of the building to great advantage.
207. Do you concur in it? I do as far as it condemns the existing arrangements, but I do not agree with the proposal to demolish the building.
208. You would demolish that portion of the building which renders the working of the Department difficult? Yes; and unhealthy.

TUESDAY, 14 *JANUARY*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. JAMES HOSKINS.	ANGUS CAMERON, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq.
HENRY CLARKE, Esq.	GEORGE BLACK, Esq.

The Committee further considered the proposed Additions to the Treasury Building.

Walter Liberty Vernon, Esq., Government Architect, sworn, and examined:—

W. L. Vernon, Esq. 14 Jan., 1896.

209. *Vice-Chairman.*] Have you prepared plans showing the proposed alterations to the Treasury building? I have. They are displayed before you now.
210. Will you explain the plans? The plans show such of the existing buildings as are unsuitable for the accommodation of the Treasury staff, and those which should be removed for others to be built to take their place. The building coloured blue on the map is a new fire-proof room, in which will be placed the books and ledgers belonging to the Receiver's office (a portion condemned), and will contain the first portion of the proposed new accommodation. The second portion, coloured pink on the plan, represents the accommodation to be provided for the Receiver and his staff. The plan shows the fire-proof room which

W. L. Vernon, Esq. 14 Jan., 1896.

which is to be erected on the site of the present Accountant's offices, which are also condemned from a sanitary point of view and from want of accommodation, and this portion of the new buildings contains an upper floor, to which the Accountant will be removed. The premises now held by the Receiver in the permanent portion of the building will then be occupied by the Pay Branch, coloured grey on the plan, which will be disturbed by the scheme proposed. The portion shown in white will not be interfered with. There are lavatories on the white space which will remain. The two new portions, coloured blue and pink, are so designed as to form, with the permanent portion of the present building, coloured grey, the nucleus of a complete building, which will be extended as necessity requires as far as Phillip-street.

211. What will be the floor-space provided when you have built on the portion coloured blue and pink? The floor-space to be provided on the portions coloured blue and pink will be 9,500 superficial feet—the addition, and that with the two floors in the existing permanent buildings, coloured grey, which amounts to 5,700 feet, will give a total floor-space of 15,250 feet. The present floor-space is 8,674 feet, inclusive of the buildings which are to be demolished, and that leaves a net floor-space in the existing building available for future purposes of 5,700 feet. Taking the floor-space for the officers at present, we have an average of about 66 superficial feet per officer. The proposal is to give them 136 superficial feet floor space per officer. I have prepared a return of the floor-space in some of the other Government offices, and the average for the Lands Department, the Mines, the Public Works, the Railway Commissioners, and the Colonial Secretary's Department, is 146 feet 6 inches for each individual clerk. I must explain that 146 feet per officer includes naturally a larger average for the draftsmen who are at work in the Lands, Mines, and Works Departments, so that the average for the clerical officers would be somewhat less than 146 feet, more nearly assimilating to the 136 feet that we propose in these new Treasury buildings. A draftsman often requires a large table. Then, with regard to the ledgers in connection with conditional purchases and conditional leases, the number of ledgers in connection with conditional purchases is at present 210, and they occupy a desk-space of about 390 lineal feet. Those desks are not very convenient, because they are all lengths and sizes, and consequently there is a certain amount of waste. For each ledger a space of 22¼ inches is provided. A ledger when opened requires 2 ft. 6 in., and the proposal now before the Committee provides a space of 2 ft. 7 in. for each of these 210 ledgers in desk-space, so that the ledgers can be opened within their own space, and used there and nowhere else. The necessity for these conditions was impressed upon me very strongly by the Under Secretary for Finance and Trade. The same applies also to the ledgers in connection with the conditional leases, and it is proproposed to place these in the upper gallery of the strong-room, keeping the whole of the ground-floor for conditional purchase ledgers. It is really a fire-proof office which will be occupied by the clerks using these ledgers.

212. *Mr. Cameron.*] A room in which the officers can carry on their work daily? Yes; in other words it is a large office built with fire-proof material. The present public lobby in connection with the Receiver's Branch has 310 superficial feet, but the present scheme will provide 564 feet. It will also give the Pay Branch, which now has a lobby of only 110 superficial feet, 310 feet. That is the accommodation of the present Receiver's lobby to which it is to be removed.

213. *Vice-Chairman.*] What will be the probable cost? It is proposed to utilise the existing building with its good stone front and substantial external wall to form a starting point for the design of the whole, so that necessarily the building will be erected in stone.

214. Do you mean the elevation from Macquarie-street? The elevation from Macquarie-street, and also the elevation facing the harbour, and the fire-proof room facing the harbour and the Quay, because that room will be so prominent an object to all round the Quay that we must necessarily study it. Whilst using stone I have kept it absolutely plain, with the cornice carried round the summit of the building. At some future day the Government may continue the parapet of the new building round the existing portion in Macquarie-street and in Bridge-street, which will make the building symmetrical in appearance. The construction of the fire-proof room is entirely non-inflammable in the character of the material. The ground-floor is to be built of concrete on iron girders and columns, and wood-blocked in the concrete. That is in order to give the clerks a proper foothold and reasonable comfort on the fire-proof floor, and at the same time, although there will be wood-blocking, there will be no fear of any fire.

215. You have said that the present walls could be used in any future extension of the building? The present external walls.

216. Would those external walls carry two or three additional stories? They would; they are strong enough to carry two, but there are many reasons why it should not be done.

217. Would you specify those reasons? The question was closely considered whether the existing permanent building could not be raised by one or more stories to provide the necessary accommodation. But it was found that, although the external walls were of sufficient stability, the internal portion was designed in so cramped and awkward a manner as to make it inadvisable to perpetuate those sub-divisions in the higher stories. Another reason was that the whole area of the existing building is 2,840 feet; whereas the strong-room alone requires 3,000 feet, making no allowance for staircases or any approach whatever. The inconvenience also of taking the public up two or three stories into those large public lobbies also seemed fatal to the idea of raising additional stories, and, lastly, the existing building stands on the highest corner of the site which falls very rapidly down Bridge-street, and equally so down Macquarie-street, so that to erect additional stories on the highest corner would involve at some future day the carrying of the other extensions to a very great height indeed, and it would be very unsatisfactory in appearance.

218. To bring it on a level with Macquarie-street? Yes; it is far better to keep them down and to build on the lower level than to pile the buildings on to the upper corner of the site. I think there is a difference of something like 30 feet between the corner of Bridge and Macquarie Streets and the corner of Phillip-street.

219. What will the proposed buildings cost? I estimate the cost of the portion coloured blue on the plan at £9,000, and the portion coloured pink also at £9,000, leaving about £3,000 for fire-proof shutters for the whole of the windows of this large fire-proof room, and if possible towards the permanent internal colonade of the future building.

220. That would make £21,000? That would make £21,500.

221. What would be a fair amount to add to that for supervision? Our works cost 2½ per cent. for professional charges, and a little under 2½ per cent. for supervision. In this case the cost of supervision will not be much, because it will be so handy. The cost will be somewhat under 5 per cent., including the Clerk of Works.

222.

W. L. Vernon, Esq. 14 Jan., 1896.

222. Making the total cost, everything included, about how much? About £22,000. The plan marked "Elevation of building when complete" shows the Macquarie-street frontage. The Bridge-street elevation will remain unaltered. Provision has already been made from loans in 1891 and 1895 for £9,000, and the year 1895 to 1896 for £13,500.
223. *Mr. Cameron.*] That leaves you a margin? Yes; of about £500.
224. *Mr. Clarke.*] I understand that it is proposed to erect a building for the Mines Department on a site near the Treasury? Yes; the money was voted by the last Parliament.
225. Could any portion of that site be utilised by the Treasury Department? It would not accommodate both Departments, but it would accommodate either of them.
226. There seems to be a very large space fronting Macquarie-street. Supposing a building were erected with additional stories? It would accommodate both Departments then, but whether it would be a proper thing to do I do not know. One Department would be so far from the street.
227. If additional stories could be erected for the Mines Department, would that not be a more suitable site than the present one? It is a good site, but I do not think it is equal to the present site for a public building; but that is a matter of taste.
228. I understood from some evidence given by the Under Secretary that there is considerable danger to people from crossing the tramway to get to the Treasury? The same that there is in getting to the Colonial Secretary's or the Works Department—not more. It is, I admit, a very dangerous crossing, and I think that some day there will be an accident there.
229. If we can have the Mines Department and the Treasury in the same building on that site, would not the danger be considerably lessened? Possibly it would be slightly; but I am of opinion that the best remedy is to remove the trams from that particular place.
230. I suppose you are aware that the principal traffic to the Treasury comes from George-street and Bridge-street? I do not know; the Treasury has a deal of business with the Colonial Secretary's Department, Works Department, and the Railway Commissioners, and they are all on the upper side of the Tramway.
231. I am referring to the general public, who do all come now by Macquarie-street? No; the majority of the public would cross the tram line.
232. If a building were erected on the site which I have indicated, would it not give more space for the tramways? Of course; I speak now not as an engineer, but I should say that the present tramway terminus is one of the most awkward I have ever seen or could ever conceive. The tramway has to approach at an acute angle, and the plan shows that the land is cut across diagonally by the tramway in the most wasteful manner possible. I do not think that any piece of land in Sydney has ever been wasted like that Treasury site by the tramways.
233. But unfortunately there is no other way of extending them? Yes; they could go down to Fort Macquarie.
234. The new buildings are supposed to cost about £20,000? About £22,000.
235. Could you tell us what the cost of the new Treasury buildings would be if they were erected on the site to which I have referred? The cost of the building operations would be comparatively the same, because it would be the same class of buildings. Taking the cost at £22,000 we should have to add the cost of the Ministerial portion, which already exists on the present site, and probably the building would cost £45,000 or £50,000. The Colonial Secretary's and the Works Department cost £196,000.
236. Does that include the present additions? Yes.
237. The books not used in the fire-proof room, but in other parts of the Treasury, will have to be put in the safes at night? Yes.
238. The whole of the books will not be in that room? No.
239. I understand that the strong-room in the base of the building is not used? It is of very small dimensions, and I think that they keep their books in separate iron safes.
240. Could they not keep all their books in safes? Not the conditional purchase ledgers; they are too bulky.
241. *Mr. Hassall.*] Do you think it is practicable that any portion of the work done at the Treasury could be done in other Departments? No; there is no room.
242. I ask this question because you stated that the average floor-space in the other public buildings per individual is 146 feet, whilst the clerks in the Treasury have only 63 feet per individual? The clerks in the Treasury are working under great disadvantages. There is no available space in the other public buildings to accommodate Treasury officers, and during the last eighteen months or two years every private building held by the Government has been given up when the lease expired. The consequence is that the public buildings are full.
243. And in your opinion it is absolutely necessary that there should be some additional accommodation provided, not only for the officers of the Treasury, but also for the public who have to do business there? I think so, and, as regards security from fire, I am certain of it.
244. Of course there are valuable documents in that temporary building at the Treasury which would be consumed if a fire broke out? Very easily.
245. Are the materials of which that building is constructed of an inflammable nature? Absolutely so.
246. And you are of opinion that if a fire broke out it would be almost impossible to save those documents? I do not think it would be possible. The building stands isolated. It is on legs, so that a wind could get into every portion of it.
247. You say that the space for each ledger at present is 22¼ inches? Yes.
248. So that it is not possible to open more than one ledger at a time? They have to fold over each other, and great trouble is experienced—the binding of the books breaking, and officers interfering with each other in getting at their ledgers.
249. And great inconvenience is suffered? Very great.
250. And your proposed alteration would provide ample room? I give 1 inch between every two ledgers.
251. The desk-space that you propose will be provided in the strong-room? Yes.
252. So there will be no necessity to remove the ledgers? No.
253. *Mr. Cameron.*] Have you got with you the specifications of these proposed additions? No. I have specifications prepared of the portion coloured blue, but not for the whole of the building.

W. L. Vernon, Esq. 14 Jan., 1896.

254. Do you not think it will be almost necessary, before we can arrive at the conclusion as to whether the building should be approved of, that the Committee should see the specifications? I can get the specifications of the first portion.
255. It is almost impossible for us to arrive at a conclusion as to the proposed expenditure unless we have the specifications as well as the plans? The specifications are purely technical, having reference to the material. They do not go into the merits of the scheme.
256. But they would enable us to form an idea whether the estimated expenditure is correct or otherwise? I will send for the specifications. The reason why the specifications for the whole of the buildings were not prepared was that it is necessary to build the portion coloured blue on the plans before the pink portion can be commenced at all, and it was anticipated that one work would be twelve months ahead of the other.
257. The work which will be proceeded with first will be the new strong-rooms for the conditional purchase ledgers? Yes; that will be constructed out of stone, concrete, and iron.
258. The stone that you use in the majority of the public buildings you get from the Pyrmont quarries? Yes; a good proportion of it, but not all.
259. Has not later experience shown that we have other stone that is equally durable, equally handy to work, and at as fair a price? I do not think so. There are other stones of first-class quality, but I think some of the Pyrmont stone is the best.
260. Have you not used other stone in connection with buildings? The building that we are in now has stone in it from two or three different quarries.
261. And the addition to the Supreme Court in St. James Road is made of stone not from the Pyrmont quarries? Yes.
262. It is a whiter stone? Yes. The best Pyrmont stone is of finer grain, and is less costly to work. Although the Pyrmont stone may be more costly at first, the general result is that it is as cheap, if not cheaper, than any other, and we think better.
263. Do you not think we have been in the habit of wedding ourselves to Pyrmont stone to the exclusion of other stones which might be used with advantage? That is difficult to answer.
264. Is it not a fact that similar stone to which I allude has been used in some of the finest buildings in Sydney, such as the Equitable Buildings? Yes. The tower of the Lands Office is not built of Pyrmont stone.
265. Have you at any time heard complaints from the proprietors of other quarries that they have been excluded, undue preference being given to the Pyrmont stone? I have had complaints from unsuccessful tenderers, but from no others to my knowledge.
266. You have an intimate knowledge of the stone obtained in the eastern quarries—Phippard's, Fitzgerald's, Smith and Pringle's, and others? There are quarries at Bondi, Waverley, Randwick, on the Illawarra line, and at the Glebe.
267. Do you not think there is a fair field for utilising the stone of those quarries in our public works? Certainly.
268. Is it not a fact that by far the larger portion of the stones used of late years by the Government has come from the quarries of one Mr. Saunders? No; I do not think so. I have not many Sydney contracts on hand just now, but I am speaking correctly when I say that we have not a single Pyrmont quarry contract on hand; but we have several for other stones. I am using Pyrmont stone in connection with the Government Printing Office, a work which I am carrying out on the day-labour system.
269. Have you at any time during your occupancy of your present office had reports from your officers as to the durabillity of stone other than that from the Prymont quarries? I think so.
270. Have those reports presented those other stones in anything like a favourable light? Yes; and we are constantly using them.
271. But was it not the practice up till recently for the Works Department, when its specifications were prepared for Government buildings, to specify that the stone should be the best Pyrmont stone? It was the practice, but during the last four or five years it has been discontinued, with regard not only to stone but everything else, and no names are allowed to be given in specifications at all.
272. Would you mind telling the Committee what is the course pursued by the Department in selecting stone? Taking the Government Printing Office as an instance, tenders were in that case called for the supply of stone to be worked up by the Government—the tenderer to state the cost of the stone, a specimen as regards quality to be submitted, the tenderers also to state what facilities they gave in their quarries. This was advertised in the *Gazette*, and the result was that eight or nine tenders were received from various quarries in Sydney. It is found that the decision as to which stone was the cheapest did not depend upon the absolute price quoted, but upon the quality of the stone and its cost of working, and also upon the facilities given to the Government for working the stone in the contractor's quarries. The matter was gone into by the Reference Board in connection with the Public Works Department, who made a very close investigation, and got evidence from the different places, and made their recommendation to the Minister accordingly.
273. Am I to understand, with regard to the facilities for working the stone in the quarries, that that means the preparation of the stone before it is removed to the building? It consists in providing sheds for working in, overhead travellers, crabs, cranes, and anything else which may be of use in working the stone.
274. So that the use of cranes overhead, sheds, and other appliances for working the stone is made a consideration by the Board of Reference when recommending any tenders for acceptance? No. But in the case of the Government Printing Office it was, and very necessarily so too.
275. Was that the only case in which it was done? It was done in the case of the additions to the Public Works buildings. These are the only two cases which I have had to deal with in that way.
276. Does the approval of the stone to be used in public buildings rest with you? It should do.
277. Then is your decision subject to revision by the Board of Reference? Not in a matter of that kind; it is subject, of course, to the approval of the Minister.
278. But the Board of Reference recommends in such cases? The Board of Reference does not go into matters in connection with the carrying out of any work, only the preliminary arrangements.
279. Supposing that two competing quarry proprietors tendered for the supply of stone for this work, and you recommended that the tender of Mr. A. be accepted, would this come before the Board of Reference before it was absolutely approved of? Not necessarily.

W. L. Vernon, Esq. 4 Jan., 1896.

280. But as a usual thing do not such matters come before them? No. That is left with the Engineer or the Architect, who must use his judgment as to which is the best material. But in a case of this kind, where a large amount of material is involved, I should certainly get the advice of the Board of Reference as to what course I should take.
281. The work now going on at the Government Printing Office is being conducted on the day-labour system? Yes.
282. Under the supervision of your officers? Yes.
283. That is almost a new departure? It is as regards works of any size.
284. That is the result, not of any action of yours, but of Ministerial action? Yes.
285. Which system would you recommend to the Committee as the most efficient in the public interest—the contract system or the day-labour system? I should prefer to call for tenders, but not in the open market. I should prefer to have had a list of *bonâ fide* contractors, and to let them tender.
286. Your experience shows that it is better to deal with a man who has proved himself a well-qualified contractor than to carry out work by day labour? Yes; then I can put all the responsibility upon one responsible man. With day labour it is not quite so easy to do that. As you have raised a question of day-work, I should like to say that so far it has answered the purpose for which it was intended extremely well. We necessarily have the best work in carrying out the day-work system, and we have been fortunate enough to get a good set of workmen. Beyond that, it has been an immense amount of trouble and anxiety to carry it out.
287. It has transformed your Department into a sort of labour bureau? I do not mind that, but the responsibility is too great for us to have many of these jobs.
288. Does it not add considerably to the cost of supervision? I think so.
289. You require more clerks of works and foremen? I require a foreman, which the contractor would perhaps require too. It undoubtedly gives the officer a great deal more work, and brings us into dealing with money matters, which I do not care to have to deal with at all.
290. I suppose you have never had any trouble in carrying out the work submitted to you, so far as obtaining fair competition from a decent class of contractors was concerned? Unfortunately, since times have got so bad, and the building-contractors' business has become so demoralised, we are subject to receiving tenders from anyone who likes to send a tender in.
291. But you have a certain number of men, recognised builders and contractors, who are capable of carrying out any work? Certainly.
292. Your difficulty is in dealing with a man who has tendered too low? Yes; and it prevents good men from tendering.
293. Is it not a fact that there is a parcel of small contractors who have been in the habit of tendering for public works at prices at which you knew they could not honestly carry out the contract? Yes; every day.
294. Would you recommend that the advice of the Government Architect, or of the head of the Department, should be taken by the Minister before these tenders are accepted;—that in all cases the absolute acceptance of the lowest tender is not a good principle? Unless the Government could establish some arrangement by which contractors who have proved themselves capable of carrying out works properly were put into a list and allowed to tender, then, of course, we would naturally take the lowest tenderer; but until some discrimination is shown in admitting men to tender there will always be a great difficulty in getting work done properly. Not long ago I let a small contract to a bookmaker. I think he never went near the job once, but he made a little profit out of it. That was an absolutely wrong thing, but I had no power but to recommend the acceptance of his tender because it was the lowest.
295. Was not that a case in which the functions of the Board of Reference should have been exercised? No.
296. What are the functions of the Board of Reference? There are a great many points in connection with tenders which the Board of Reference must take up, and the Board often has to determine by close investigation which is the lowest tender, but unless there is something against a man in the shape of dishonesty or failure to carry out a former contract, the Board would not pass him over; if they did, the Minister would not under the present system.
297. Who are the members of the Board? The Engineer-in-Chief for Public Works, the Engineer-in-Chief for Railway Construction, the Under Secretary for Public Works, the President of the Water and Sewerage Board, and myself.
298. You have been compelled to accept the lowest tender when you knew that the tenderer could not carry out the work at the price? Yes.
299. In a case of that sort would not the Board call the attention of the Minister to the fact? We do so in a very clear case, but in others, although we may have a very strong opinion of our own, there may be no alternative but to recommend the Minister to accept the lowest tender.
300. Do you take a guarantee in the shape of a cash deposit? We do, unless the tender is below a certain amount.
301. What is the limit? The limit is £150.
302. Does the amount of the guarantee rise in proportion to the work tendered for? We take from the contractor such deposit, equal to 5 per cent. of the amount of his contract in the first instance, and then on his commencing his work we deduct a graduated sum from his payments until it rises to another 5 per cent., so that in the course of time we have 10 per cent. on the contract in hand, and that is not disbursed until the work is finished. We have a large number of small contracts under £150, but it is considered rather hard on men of small means to force them to pay a deposit, and in those cases we do not enforce any cash security.
303. Is it not a fact that tenders were called for the work at the Government Printing Office, and that a number were received by the Department? Yes.
304. Were they far over the estimate when they came in? No; I recommended the acceptance of the lowest tender, and I think the Board did.
305. That recommendation was afterwards overridden in favour of the present system? We had instructions not to accept a tender, but to carry out the work by day labour.
306. Was that after the contractor had been notified? No; that would have been an acceptance.
307. Does it not seem rather hard to ask contractors to waste a large amount of time, and in some instances to go to great expense, to make up an estimate, and then to coolly adopt another system? I take all the care that I can not to give contractors unnecessary trouble.

W. L. Vernon, Esq.

14 Jan., 1896.

308. But, as a matter of fact, it does give a large amount of trouble? In exceptional cases like that it does.
309. Have you heard that, owing to what the Government did in that case, the same course has been pursued by private companies? I should be sorry to find that it would have that effect, because it was a very wrong thing to do.
310. Can you tell us what was the amount of the lowest tender for the Government Printing Office? It was about £10,000.
311. As the work is progressing at present, will it be carried out under or for that amount? I am assured by my officers and my own observation that it will. We are taking every care that it shall be.
312. I suppose you admit that it costs your Department a larger amount for supervision under this system than under the other? No; not more, except that we pay a foreman of the work directly. Of course, if the work was built by contract, we should not. I have one extra man in the office, and I think we give him about £3 10s. a week.
313. It is costing you about £300 a year more? Possibly.
314. Do you propose to use in the whole of this structure hardwood timber? We do not use hardwood for the constructional portion of the work, such as joists and rafters.
315. Is it not becoming the practice to substitute Oregon timber for hardwood, as being cheaper and lighter for the walls? That has been the case for many years. In some cases you cannot use Colonial hardwood.
316. As a matter of fact, are not Colonial hardwoods liable to shrink? Yes, and to warp—some, but not all.
317. Is it not a fact that as soon as you take a shaving off blackbutt it shrinks? Yes.
318. And the consequence is that it tears away the skirting from the floors and the walls? Quite true.
319. Would it not be better in such cases to use lighter timber? No. In a building like this we put what are called double claws, and by that means we can reduce the scantling, and, therefore, reduce the shrinkage.
320. How do you propose to cover the roof of this building? We shall put concrete on the fire-proof room.
321. I am speaking of the building shown in pink? That will be all concrete.
322. What is the idea of that? Because it is a permanent public building, and where we can use solid material we use it in preference to anything else.
323. What is your concrete composed of? Some of bluestone, some of coke.
324. Have you tried a concrete roof upon any other public building? Yes. We have it on the late additions to the Public Works Department.
325. You are not having a slate roof? No.
326. What is the objection? It is to be fire-proof.
327. You told Mr. Hassall that the girders were to be of iron? Yes.
328. Do you think that ironbark girders in the case of fire are safer? Ironbark girders are a splendid substance, but you cannot use them everywhere, and you could not construct a fire-proof floor, except very clumsily, with ironbark girders, because you would require such big scantling.
329. Is it not safer than iron where a fire takes place, and water is played on it? In some respects it is.
330. Ironbark will last for nearly all time? No; unfortunately, the white ants get into it.
331. *Mr. Black.*] I think you said that the elevation of the present building was about 30 feet higher at one extremity than at the other? Yes. I think the pavement at the corner of Macquarie-street is 30 feet higher than in Phillip-street.
332. And between the two extremities in Macquarie-street there is a fall of 15 feet? No; about 8 feet.
333. Then, if you added other stories at the top of the present building, you would require to add about two stories between Phillip-street and Macquarie-street? Yes.
334. If you added four stories on the corner of Macquarie-street you would require to have six or seven stories on the building on the Phillip-street side? Yes.
335. Seeing that there is to be a reduction of the work carried on in the Custom House, would there not be sufficient space saved there to give room for some of the work of the Treasury to be done at the Custom House? I can only tell from papers that come to me from the other offices. The other day I received a requisition from the Custom House people to build another wing at the back of their building.
336. I believe that the operations in connection with the Land and Income Taxes are to be carried on there? Yes.
337. This fire-proof room is on the ground-floor? There is a space underneath; there is a great fall from Macquarie-street down towards the tram.
338. What duties will be carried on in the room above the fire-proof building? There will be nothing over it; it runs the whole height of the building, and it will have a gallery so arranged that one officer can see all the clerks in the place.
339. With regard to the danger from the trams if the office were removed to the other side of the tram-line;—if that minimised the danger to people coming from the west, would it not increase the danger to people coming from the east? It would, naturally.
340. It would not affect the general traffic at all in any case? Not appreciably. The isolation of the strong-room would not be so complete as it would on the present site.
341. With regard to the matter of day-labour, is it proposed to carry out the proposed alterations by day-labour in this case;—I suppose that could be done with the tools now being used at the Government Printing Office? We have had to get a certain amount of plant which would be available.
342. And in the event of no more Government works being carried out by the day-labour system that plant would be useless? We should have to sell it—it consists of cranes principally.
343. You have told Mr. Cameron that as far as you know the only increased expense in regard to the works at the Government Printing Office on the day-labour system is the hiring of one supervisor, whose salary, at the outside, is not more than £300 a year? I have a clerk in the office and a working foreman on the work; but we have more responsibility in the office.
344. Do you think that that salary is representative of the profit which would have been made if the work had been carried out by contract? In ordinary times the contractor would be entitled to a profit of 10 per cent. or 15 per cent., but in these times contractors, I am afraid, are making no money at all.
345. What was the amount of the contract? About £10,000.

W. L. Vernon, Esq. 14 Jan., 1896.

346. So that, estimating the profits at 10 per cent., the contractor would have gained £1,000;—therefore, deducting from that supposititious profit the £300 or £400 extra cost to the Department, it leaves a saving to the Department of several hundred pounds? I think that in this particular case the Minister did a wise thing, because we are carrying on the whole work without disturbing any one workman in the Government Printing Office.

347. *Mr. Cameron.*] Supposing a contract had been let, could you not have made an arrangement for the contractor to do without disturbing the workmen? We should bind him tightly in every way; but we could not forsee everything, and I am afraid we should have had some claims.

348. *Mr. Black.*] You prefer the contract system to the day-labour system, because you can fix the responsibility upon one man? Yes.

349. Is it not a fact that the contractors have managed to evade their responsibilities? Not if we could help it.

350. But is it not possible that work may be scamped through the negligence of Government officials, and bad material put in? I am afraid that is too apathetical a question for me to answer.

351. Have you heard of green material, in the shape of doors and windows, being fixed into schools in school contracts, and of the doors and windows shrinking and the roofs letting in water? I do not know of any special case.

352. *Mr. Cameron.*] In this case are not the Government obtaining supplies of materials from contractors? Yes.

353. *Mr. Black.*] But if the Government carried out their own works could they not find means of obtaining material without the intervention of other parties? It would be very difficult.

354. Are not the sources from which contractors obtain material just as open to the Government as to the contractors;—are not the forests and quarries of the country more open to the Government than to any private individual? Certainly; the Government have a large amount of Crown lands which they can utilise, but they provide but a small portion of the requirements of a building. There is an enormous number of items which are to be made or imported.

355. Have you not heard complaints from the people of Balmain and Redfern in regard to their school-buildings? I have nothing to do with schools.

356. Have you not heard of cases in which small contractors have received full payment and left the country without paying their workmen? Officially I do not know of any such case. Every day I am dealing with cases in which contractors have not made all their payments. To some extent it is our duty to see that they are made.

357. *Mr. Cameron.*] Your officers interfere to see that the men are paid? No. When we get orders to pay merchants and others we have to be very careful how we go to work. The Minister has on several occasions, when wages were not paid, ordered that they should be a first charge on the balance due to the contractor.

358. *Mr. Black.*] Supposing that the contractor has been fully paid, and he deceives his men and leaves the country without paying them, the Government could not be expected to pay those men? No.

359. *Mr. Cameron.*] But you never pay them up fully before the work is completd? No; we always keep some money back for a reasonable time.

360. *Mr. Black.*] With regard to the question of day-labour, I suppose there is a considerable amount of expense in calling for tenders and examining them? No. There is a little advertising, but it is very small; it is in the *Gazette* principally.

361. Do you not advertise in the country papers? To a very slight extent to what was done formerly.

362. You have been asked whether it was not a fact that private people were now following the example of the Government, and doing their work by day-labour? I think I heard of a case, but I cannot recall it to mind. People do call for tenders to see what works will cost. It is a very improper thing to do.

363. *Mr. Hoskins.*] Can you say whether there is sufficient space on this site to enable two buildings to be erected for the Treasury and the Mines Department? I think you could get the accommodation by going upwards, but you would have to go very high, and you would not get it at a moderate elevation.

364. They have eighty clerks in the Treasury? They have 161 in the Mines Department.

365. There would be sufficient room if the building was made higher than the Treasury building is now? I suppose it is possible, but I do uot think it would be advisable.

366. Your estimate is for a building with a stone front? Yes.

367. What would be the difference between the cost of a building with a stone front and a brick building? The difference between plain stone and double-pressed bricks is very small.

368. If the building were carried out as you propose, do you not think there would be great danger owing to the proximity of the trams? I think there would be great inconvenience, but I look upon it as only temporary. Every time they open the windows from the Treasury they are inundated with a dust from the motors, but I think that difficulty will be lessened by the new building.

369. Will there not be danger of fire from having the trams so close to the building? There is some force in that, as the locomotives are always firing up there.

370. You stated that the floor-space allowed for each clerk in the Government buildings except the Treasury is 146 feet;—is not that an unusually large area? I do not think so. In the banks I think you will find there is more, but it is larger than the space allowed in merchants' offices.

371. Is it not a fact that in the Public Works buildings and other large Government institutions clerks of no great standing in the Department have separate rooms, thus preventing supervision? That is so.

372. Could you not design such buildings so that there would be more effectual supervision over the clerks? Yes.

373. That would economise floor-space? It would. In preparing that sketch for the Mines Department I pointed out in my report that it is essential that each branch should be in one room only, and by that means floor-space would be economised. In practice, however, I find that however large the rooms are, partitions begin to rise up in all parts.

374. Has not that practice caused the buildings to be much larger than they need have been? Yes, I think it has; and it has lessened the supervision. We are trying to avoid all that in these new buildings.

WEDNESDAY,

WEDNESDAY, 15 *JANUARY*, 1896.

Present:—

THE HON. FREDERICK THOMAS HUMPHERY (VICE-CHAIRMAN).

The Hon. JAMES HOSKINS.	ANGUS CAMERON, Esq.
The Hon. WILLIAM JOSEPH TRICKETT.	THOMAS HENRY HASSALL, Esq
HENRY CLARKE, Esq.	GEORGE BLACK, Esq.

The Committee further considered the proposed Additions to the Treasury Building.

Walter Liberty Vernon, Esq., Government Architect, sworn, and further examined :—

W. L. Vernon, Esq. 15 Jan., 1896.

375. *Vice-Chairman*,] I believe you have some papers to submit? I was asked to submit two or three papers yesterday, and I put them in now. The first is a plan of the lands in Bridge and Phillip Streets, on which it is intended to erect the Mines Office, and on which are the present Local Government Board Offices.

376. Will you state the different frontages which will be occupied by the proposed new building? The frontage of the new Mines Office to Bridge-street will be 113 ft. 6 in., and to Phillip-street 105 feet.

377. Will you state the superficial area that would be occupied by the Department? It is 10,250 feet. That includes an area in the centre—the staircases, and corridors. It is not all actual office accommodation.

378. Can you say how much of the 10,000 feet will be appropriated by the officers on each floor? 4,568 feet of office space on the upper floor.

379. What about the other 6,000 feet? The whole site is 10,250.

380. But what use will be made of the difference between 4,000 and 10,000 feet? A portion is taken up by the central area, and there is another percentage for corridors, thickness of the walls, lavatories, staircases, lifts, and areas.

381. Would it not be possible to utilise any portion of that 6,000 feet for office accommodation? We are doing the best we can to do so on our sketched plans. I know that the difference on paper looks a great deal, but as it happens it is a most economical plan as regards corridors—one of the best that we have had to deal with. There is a very great difference between the area of a site and the area that you can use in a case of this kind.

382. I dare say you have observed the different banks in the city? Yes. In the banks most of the space available is used for office accommodation, provision being made for a large central office. The banking chamber is direct from the street, and there is no waste, but the back premises of the bank will show the same percentage of waste or of unoccupied space that you will find in this building.

383. Is there any reason why the Treasury should not be designed upon a somewhat similar plan to that pursued in banking establishments? The Treasury buildings will have a much larger percentage of office floor-space than the Mines Department. In the Treasury you are getting a more economical building in that respect than would be in the Mines.

384. How many storeys will there be in the proposed buildings in the Mines Department? Four, including the basement.

385. And what will the total cost be? £18,500.

386. What material do you propose to use? It is intended to use plain stone, but I think it is most likely that it will be brick and stone.

387. Do you propose to use stone in the front elevation? If I can—rough-faced stone.

388. Have you estimated for stone or for brick? I have estimated for brick.

389. Assuming that you use stone, what will be the difference in cost? I hope there will be no difference. The estimate was made some time ago, but I think it possible that I may obtain a tender for stone at my former estimate for brick.

390. *Mr. Trickett.*] Have you any other document to put in? I was asked yesterday the cost of the plant used in connection with the Government Printing Office, and for a schedule of the wages paid there. The plant which we have had to purchase cost £312, to which I must add the cost of a temporary workshop, £150; the loan of a steam crane from the Harbours and Rivers Department, which I have not valued at all; £215 worth of lead and iron for weighting the cranes, which, of course, is only money held in suspense. It is not a purchase. All these added together make a total of £677, of which £215 is recoverable any day from the metal merchants. The schedule of wages is as follows :—Foreman, 15s. per diem; assistant foreman, 12s. per diem; carpenters, 9s. per diem; bricklayers, 10s. per diem; masons, 10s. per diem; foreman mason, 11s. per diem; plumbers, 10s. per day; foreman plumber, 11s. per diem; painters, 9s. per diem; crane driver, 9s. per diem; slaters, 10s. per diem; labourers (while hod-carrying), 8s. per diem; labourers, 7s. per diem.

391. How do they compare with the current rate in the labour market? As far as we can ascertain they are rather high.

392. Who fixed the rate of wages, yourself or the Minister? I fixed the rate with the Minister's approval. My instructions were to pay good wages to good men.

393. To these items you have to add the cost of clerical assistance in your own Department? Yes. I have one extra man at £3 10s. a week.

394. How does this system of carrying on the work at the Printing Office compare as to time with the way it would be done by tender? I do not think that I save time by daywork as compared with what could be done by a good contractor, but as regards a second-class contractor, I consider that we are doing the work more quickly. I can command materials at any moment, and I know that many contractors cannot.

395. How long has this job been in hand? Between three and four months; it is about a twelve months' job.

396. I suppose it is necessarily a little longer by reason of its being an alteration job? Yes; we have to work at a great disadvantage to save the Government Printer; we are dropping columns through two floors down between his machines, and we are not interfering with his men. That all means time.

397. *Mr. Cameron.*] Do not you think that there are plenty contractors in the country who could carry out that work with the same regard to care and safety under your directions? Undoubtedly there are some contractors who could do it.

398.

W. L. Vernon, Esq. 15 Jan., 1896.

398. *Mr. Trickett.*] Coming to this Treasury work, is not the alteration of a building always unsatisfactory and expensive? Not always; it is in many cases.

399. In this particular case, do not you think, after all, that it is almost an undesirable way to tackle a great public building to alter it in the way proposed;—would it not be better to have a new building? In this case I hardly think so.

400. Will you tell us why? Because we are not touching the permanent original building at all. We are adding to it two large additions on vacant ground. We are not destroying what really is a handsome building. It has certain defects inside which may have to be altered at some future day, but it is not like many buildings in Sydney, which could not be touched without pulling it down over your heads.

401. How many rooms will there be in the building when it is altered? I will put in now a plan of the complete building, which was asked for yesterday. (*Vide Appendix.*)

402. According to a memorandum handed in by Mr. Kirkpatrick, there are twenty-three rooms in the present building;—will you tell the Committee how many rooms there will be when the proposed additions have been made? When the new building is completed there will be only fourteen rooms—five on the ground floor and the remainder on the first floor, with a much larger floor-space, of course.

403. And in every way more convenient? Yes.

404. You hand in plans showing what the building will be when the proposed alterations are carried out? Yes.

405. The estimated cost is £22,500;—does not that seem a rather large sum compared with the £18,000, which you think will be sufficient to erect a Mines Department and the Local Government Offices, which are to have four storeys and a basement? No; not when one considers the difference between the two buildings.

406. What is the difference? There is the fire-proof room in the Treasury, which has, of course, the same architectural front towards Macquarie-street that the present building has, and also the very high facades and the fire-proof construction throughout, including the iron gallery and concrete roof. That must necessarily cost a great deal more than a building with smaller spans, with wooden floors and an ordinary slate roof.

407. I suppose that the ceiling of the fire-proof room will be a heavy item? It will.

408. Will you detail its construction? I cannot give you the scantling. It consists of a series of longitudinal girders crossing the area of the roof, and a number of iron columns going from the bottom to the top, carrying a gallery.

409. And those will be sustained by concrete piers? They are all concrete piers on the base. Those longitudinal girders are crossed again by smaller girders, and from joist to joist is carried a concrete arch, covered with ashphalt.

410. It will not be a flat ceiling? No; I propose to show the whole of the structure, not to hide any of it at all.

411. Is that the most modern way of constructing fire-proof ceilings? The present mode is not to put in any false ceiling, or any woodwork, but to let the construction show for what it is worth. The gallery floor is constructed in a precisely similar way, and also the ground floor. The windows will have iron frames, and it is proposed to have iron shutters, possibly with hydraulic motive-power. We have made provision for something of the kind, to simultaneously close the whole of them every night.

412. These iron shutters are very heavy items? Yes; I have provided the difference between £18,000 and £22,000 to cover it.

413. Then the shutters will cost £2,000 or £3,000? I think not quite £2,000.

414. *Mr. Cameron.*] Can these be manufactured in the Colony? Yes. We have had a strong-room at the Lands Office fitted up entirely with steel fittings—the very large building.

415. *Mr. Trickett.*] Will a room of that kind be sufficient to provide ventilation for the clerks?' Yes; and it contains such a large cubic space of fresh air that that alone will be a guarantee, and in addition to that we have the windows.

416. What will be the height of the ceiling? The ground floor is 18 ft. 1½ in., and the second floor about 19 feet—that is, the gallery.

417. Will the room be 37 feet high? It will be close upon 40 feet high.

418. How wide would the galleries be? From 12 to 18 feet—they vary.

419. Then this strong-room or office will be the whole height of the building? Yes; the room is 60 feet by 52 feet in area.

420. Would it not be rather inconvenient for all those ledgers to be kept upstairs when the public, who require information, will be at the counter down below? I understand that it is proposed by the Under Secretary to only temporarily occupy the gallery with the conditional lease ledgers, and when the second portion of the building is constructed to bring the Accounts Branch on to the first floor, and to allow its expansion into the gallery. The whole of the ledgers will be on the ground floor then.

421. Have you been in communication with the tramway authorities at all as to the future working of the tramway system, and whether it is likely to be kept in its present place? Sometime since I recommended that communication should be made to them, but that was in reference to the very dangerous way in which the coal and coke were stored at that time, and I also pointed out to the Under Secretary for Finance and Trade that no opportunity should be lost of endeavouring to get the Commissioners to make some alteration altogether, because I understood from him that the tramway was only on that piece of ground on sufferance.

422. Would it not be very desirable to get the tramway depot removed from there? Undoubtedly.

423. We were told by the Under Secretary that they are afraid to open the windows on account of the dust and smoke, and the same objection will exist with regard to the new building? Yes; I have here a report of my own written in 1894 upon this matter. In that report I said:

> In dealing with this matter comprehensively a very great stumbling block presents itself through the position taken up by the tramway terminus, which cuts the land intended for Treasury purposes into two angular portions, and so obliquely as to quite prevent a reasonable scheme being carried out. It is extremely desirable, from the point of view of an economical and properly-arranged Treasury building, that some definite understanding should be come to with the Railway Commissioners as to the entire removal of the terminus in question.

That report seems to have gone to the Treasury, and Mr. Kirkpatrick put this minute on it:

> Before sending on these papers perhaps I should communicate with the Secretary to the Railway Commissioners especting the necessity for the removal of the coke store in Bridge-street.

Mr.

Mr. Lyne, who was then Minister for Works, wrote on the report, the words "Carry out at once."
424. *Vice-Chairman.*] Nothing has been done from that time? There has been constant communication, and several schemes have been proposed.
425. *Mr. Trickett.*] Has the coke store been removed? It has been roofed over, and the coke is now brought in bags instead of being brought loose as it was formerly.
426. Will you have any windows facing the tramway terminus in the new building? We shall have eight windows—four on each floor.
427. Is that not rather a weak point in your scheme? Not necessarily, because those windows having iron frames, there would be no occasion to open them. For the sake of appearances outside I was bound to break up that large wall, and also to distribute the light equally in the room.
428. So that these windows can be used for light; but you would have sufficient ventilation without opening them? Quite so.
429. I suppose you have not been consulted generally by the Government as to the whole of the public buildings and the places available for public purposes? From time to time I have been instructed to report upon the subject for one Department or another, but not as a whole.
430. Have you gone into the matter sufficiently to be able to say that there is not at present in any large public buildings such as the Lands Office sufficient available space for Treasury purposes? At present there is not.
431. Have you been consulted at all with regard to the utilising of that fine block of land occupied by the Public Instruction Department? I have not.
432. Those are very old buildings are they not? Yes; some of the oldest in Sydney.
433. I suppose for you to give us an opinion as to the possibility of utilising the Treasury buildings for the Public Instruction Department, and the erection on the site of the Public Instruction Department of a fine building for the Mines Department, the Local Government Department and the Treasury, would require some time? It would necessarily.
434. Does not that strike you as a very fine site for a good public building? It does. There is only one defect, and that is the steepness of Bent-street, otherwise it is an admirable site.
435. That objection applies to these other sites? Yes; to nearly all of them.
436. You say that the building which is to be used for the Mines and Local Government Department will consist of four storeys? Yes.
437. That will be a very large building, will it not? Owing to the very rapid fall of the ground in Bridge-street, one story can be obtained in the fall of the road itself; therefore, from Phillip-street the building will have the appearance of only three storeys, but from Bridge-street four storeys. I might perhaps explain that the requisition for space given me by the Mines Department gave a superficial area of 134 feet per officer; but I consider that I have got them all the room that they can reasonably ask for at the rate of 114 feet per officer, and that is done by putting each branch in one room only.
438. Will you tell us how many clerks you were instructed to provide for in the Mines Department? The instructions did not state the number of clerks. But some time ago I was instructed to ascertain if the Mines Department could be accommodated temporarily in the Lands Office. I then made a room to room examination of the Mines Department, and I found that there were 161 officials employed there.
439. Looking at the necessities of the case, do you think that the proposal now before the Committee is the best for carrying out the improvements required? I am of that opinion, and it has taken from the beginning of 1894 to arrive at it. It has been arrived at through a long series of plans of every description, in which endeavours have been made to get additional accommodation in all ways. This is the result of a large number of different designs.
440. But all the inquiries have been directed to one thing; that is the alteration of the present building? Yes; I never contemplated the removal of the Treasury from that building.
441. *Mr. Hoskins.*] Has the money for the new building for the Mines Department been voted by Parliament? Yes; quite recently.
442. Were you instructed to prepare plans for the building for the Mines Department, and also for the Local Government Department? No; not for the Local Government Department.
443. Do you intend to adhere to the statement that you made to Mr. Trickett, that in the erection of the Mines Department there would not be such a large number of offices as there is in the old building, but large rooms in which clerks would be employed under proper supervision? That is the scheme which I have strongly recommended, and the sketch plans were based on that recommendation.
444. Has it received the approval of the Minister? It is now before the Minister for Mines and his officers for their approval.
445. Your object in making a design of that kind for large rooms is to give efficient supervision, and at the same time a sufficient amount of space for the clerks? Yes; in reporting upon this preliminary in July last year I said this:—

> It will be necessary for the sake of economy to inaugurate arrangements by which branches and sub-branches will accommodate themselves each in one room of sufficient area, and not in a series of small separate rooms as has hitherto been the custom.

446. *Vice-Chairman.*] Do you know how many officers at present occupy the Public Instruction Department? I do not.
447. Have you been through the building? I have only visited the Under Secretary and the Minister.
448. Would not that be an admirable site for the Treasury and also for other Departments? It would be an admirable site, but one ought to see the thing on paper before giving an opinion.
449. Have you any idea of the land available there? I think the area is about the same as that of the Lands Department. It will be a little shorter in the Bent-street frontage.
450. Would not that be free from the objection with regard to the trams? It would.
451. Would it be as convenient for the public? Equally.
452. Would it not be more convenient? It is nearer to the centre of the city, but it is not nearer to some of the other Departments, which have constant communication with the Treasury.
453. In estimating the cost of the Mines Department, did you take into consideration that you would have to provide accommodation for 161 officers? I did.
454. And you propose to provide a new building with a stone exterior to accommodate 161 officials? I hope so; I will not say for certain.

W. L. Vernon, Esq. 15 Jan., 1896.

455. At a cost of £18,500; and the alterations to the Treasury where the whole staff does not exceed eighty individuals will cost £22,500? That is so; it is a different class of building.
456. Cannot the two Departments be combined at a less cost than the two sums and sufficient accommodation provided? No; in dealing with the Treasury extension the accommodation of the Treasurer and the Ministerial Branch has not been considered. In putting up an entirely new building, you would have to provide accommodation which is already contained in the permanent building.
457. You said you would require 15,000 feet of floor-space for the Treasury? We are providing 15,000 feet in the alterations.
458. I think you said altogether? Then I ought to correct myself. What I intended to say was that the floor-space secured by the alterations, and including the alterations of the floor-space in connection with the Correspondence Department. The Treasurer and the Under Secretary do not come into the calculation at all.
459. Can you say what will be the total floor-space available in the Treasury with the alterations? I should have to calculate it.
460. What floor-space have you provided for the 161 officials connected with the Mines Department? 18,273 feet. Of course that is subject to the approval of the Minister for Mines.
461. If you provide 18,000 feet for the Mines Department with 161 officers, will it be necessary to provide more than that for half the number of officials in the Treasury? It will be necessary to provide more, because I could not consider the superficial contents of the fire-proof room, so far as the officers were concerned. I had to consider the room for the ledgers.
462. What space have you provided for each individual in the Mines Department? 114 feet.
463. What space in the Treasury? 136 feet per individual. I cannot reckon the floor-space in the Treasury per officer. I reckon it upon the desk-space, and that has thrown me out of my calculations altogether; but it is absolutely necessary that it should be done.
464. Do you think that if you had the design of a building suitable for the Treasury and the Mines Department, you could design a building which would be in every way more suitable and less costly than the carrying out of the two proposals before us? I do not think I could get the two on the ground coloured pink on the plan except the Local Government Board offices site was included.
465. Taking into consideration the whole site, assuming the whole site to be available? Then I must provide for a complete Treasury, a complete Mines Department, and a complete Local Government Board office.
466. With an approach or entrance in Elizabeth-street? I hardly like to give an opinion upon it at the present time; it is a big thing to do. It would be possible to get the three on to that site by putting one on the top of another, but it might not suit public business.
467. Do you not think that the ground occupied by the Public Instruction Department might not be made available for the Public Instruction Department, the Mines Department, and the Treasury? I could not say.
468. You have not considered that? I have not.
469. All that you have considered in connection with the proposal now before the Committee, I presume, is an alteration of the Treasury buildings to provide fire-proof offices? Yes; and additional accommodation for some of the other officers, better accommodation for the accountants and for the public. I should like to point out that in constructing the new fire-proof room it is necessary not to interfere with the accountant's branch in their temporary building. This condition fixed the size of the extension and the second portion of the scheme, into which the receiver, the public, and the accountant will eventually go. I give that as a reason why the receiver's room is of that particular dimension.
470. *Mr. Clarke.*] If the building now used in Young-street for the electoral offices were taken down would that give a sufficient area for a building for the Mines Department and also for the Treasury? I think it would.
471. Do you know the total frontage? The frontages vary. In Elizabeth-street it is 86 feet; in Bridge-street, 190 feet; in Phillip-street, 159 feet, with practically light on all sides.
472. Could the portion in Elizabeth-street be utilised for Electoral Offices or Local Government offices, and the other portions in Phillip, Bridge, and Young Streets, used for the Mines Department and the Treasury? It is a little difficult to say offhand. For the Treasury, I must give a large floor-space to the fire-proof room, and that takes it out of the category of ordinary buildings.
473. Can you give any idea of the probable cost of new Treasury buildings on the portion of the land I speak of? Not unless I could scheme something on paper first.
474. It has been stated that there are only eighty officers in the Treasury, and that there is double that number in the Mines Department, and the cost of the Mines Department is to be £18,500? Yes.
475. If there are not so many officers in the Treasury to start with how can the cost of the building be greater than the cost of the building for the Mines Department? The Under Secretary states that there are to be eight or ten officers in the strong-room, but he forgot to mention emergencies—occasions when he has to employ a larger number? I have provided for twenty-five officers for that room. I daresay that in the Mines Department there are a number of officers in that 161 who only partly use their offices, being employed a great deal out of doors, and who do not require so much accommodation.
476. You have stated that the site of the Public Instruction Department would be a good site? It is a very good site for any public building.
477. In the event of the Public Instruction Department being removed, would the Treasury buildings accommodate the staff of that Department? I should think not, but I do not know the internal arrangements of the Public Instruction Department. I do not think that the present offices in the Treasury buildings are fit for anybody.
478. *Mr. Hassall.*] If the officers of the Mines Department are removed from the Lands Department, will not that leave a large space in the Lands Department available for any other Department? It would. I believe that that question was gone into, but I have no official knowledge of it. The same difficulty presents itself there with regard to the fire-proof room for the ledgers. They have a large strong-room in the Lands Office, but it is almost filled up with Lands Office records.
479. Will it not be possible to erect buildings that would answer all the requirements of the Treasury and the Mines Department, and probably the Public Instruction Department, at a lesser cost than the two buildings which it is now proposed to erect, which total £41,000? I do not think it is possible.

480. You think that the proposal to make these additions to the Treasury building, and to erect a new building for the Mines Department, is the most economical? As far as the Treasury buildings are concerned, I think it most economical; as for the Mines Department, I do not know why they are going there. I simply had instructions to provide a building for them. W. L. Vernon, Esq. 15 Jan., 1896.

481. This Committee would like to know whether it would not be possible to save the expenditure of portion of these two sums of money and still provide accommodation for the Departments themselves? Some time ago, prior to the Mines Department going to the Lands Office, I was called in as between three Ministers—the Minister for Works, the Minister for Mines, and the Minister for Lands—to draw up a scheme by which the Mines Department could go into the Lands Office. The Mines Department is now cut up into several portions. They are renting premises from Gibbs, Bright, & Co. Some of them are in the old naval stores, and I think some are in the domain. I was instructed to prepare a scheme to put the two Departments into the same building. I did propose one, after an immense amount of trouble to get them both into one building, but it meant such an upheaval that nothing came of it.

482. In your opinion the proposed alterations to the Treasury are the most suitable and economical that can be devised at present? Yes.

483. *Vice-Chairman.*] Could you not make provision in one of these new buildings which you propose to erect for the Audit Department? I could; it would be very suitable to put it in the Treasury Department.

484. Do you know what accommodation would be required for the officers of the Audit Department? I do not. With regard to the return moved for by Mr. Black some time ago, I may mention that a saving of something like £3,500 a year has been made by the Works Department by dispensing with its outside offices.

485. *Mr. Cameron.*] If these alterations were carried out, and it was found desirable to bring the Audit Department within easier range of the Treasury, would you have space enough to do it? I think so, because there is all that vacant portion coloured green on the plan.

486. *Vice-Chairman.*] Do you not think it would be much cheaper to provide in one spacious building for two or three Departments instead of putting up separate buildings for each? I think it would. It would be more convenient to the public if one could begin *de novo*, but in this case I think the Treasury buildings have gone too far.

487. Would it not be more convenient to the public to have the Mines Department, the Treasury, and the Audit Office all together under one roof? I think it would be.

488. Could not that be accomplished on either of the sites to which your attention has been drawn by the Committee; that is to say, the site in Bridge-street and Elizabeth-street and the one occupied by the Public Instruction Department? I am not prepared to say without considering it.

489. Perhaps you will give the matter consideration, and before we close the inquiry communicate your views to the Committee? It means a great deal of work, and will occupy considerable time. I shall have to go into a great many particulars to ascertain what can be done.

490. *Mr. Cameron.*] I understand that it is reported in one of the papers this morning that in your evidence yesterday you favoured the day-work system as against the contract system; was that so? No; that report in the paper is incorrect in almost all respects.

491. *Mr. Hassall.*] Do you not think it would be possible to elaborate a scheme whereby all the public offices might be placed in juxtaposition to each other, so as to enable the public to transact their business without having to run all over the place. Starting with the Lands Office, could we not utilise the space occupied by the Public Instruction Department and the space at the corner between Bridge and Phillip Streets, so that we could have the public offices practically all together? I think the scheme is an admirable one. No doubt all the Government Departments could be brought into close connection with one another, except the Post Office, and the Crown Law Office which must be in connection with the Courts.

TUESDAY, 28 JANUARY, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Henry Clarke, Esq.
The Hon. John Davies, C.M.G.	John Lionel Fegan, Esq.
The Hon. James Hoskins.	Thomas Henry Hassall, Esq.

The Committee further considered the proposed Additions to the Treasury Building.

Edward Alexander Rennie, Esq., Auditor-General, sworn, and examined:—

492. *Mr. Humphery.*] Have you seen the plans that are now before the Committee in connection with the proposed alterations to the Treasury? I have not. E. A. Rennie, Esq. 28 Jan., 1896.

493. Then you have had no opportunity of ascertaining the proposed increased accommodation? No.

494. Can you tell me what the position of your Branch is with regard to the premises which you now occupy? The premises of the Audit Office are not altogether suitable, but we have made them so as far as possible.

495. You hold them upon a long lease? The lease will expire in February, 1897.

496. What is the rent? We are paying £1,000 a year. We occupy two houses, and we pay £500 a year for each house.

497. And the taxes, I suppose? Yes.

498. Is there any reason why the Audit Office should not be placed in the same building as the Treasury? Personally, I should not like it. When the Audit Office formed part of the Treasury buildings it was a source of great inconvenience and to some extent of annoyance because the clerks of the two Departments were continually running into each other's offices interfering with what I consider the distinct business of each.

499. Was that attributable to the unsuitableness of the building to accommodate the officers of both Departments? The present Treasury building was at first constructed to provide for both, but there was

E. A. Rennie, Esq. 28 Jan., 1896.

a dividing wall between the Treasury portion and the Audit Department. There was no communication between the two inside, but the two Departments were so close together that the clerks were always running round to the Treasury.

500. Even if the buildings were entirely separate, if the two Departments were in two adjoining buildings, you think it would be objectionable to have the Audit Office so close as that to the Treasury? Yes. And I may say that when I first went to the Audit Office, 50 years ago, the Audit Department was immediately over the Treasury, in an old building which has been pulled down. When that building was pulled down prior to the erection of the present Treasury buildings, the Treasury and the Audit Department rented two separate buildings, one in Charlotte-place and the other in Jamieson-street. We only came together again when the present Treasury building was completed.

501. You would be quite satisfied as long as you were separated by a street, but you would not like to be next door to the Treasury? I should not like to be next door to the Treasury; but if there was a strict check against close intercourse between the two Departments it might be alright.

502. With provision that there should be no intercourse between the two Departments, you think that the Treasury and the Audit Department might occupy the same building? I should not like it so well as being in a separate building, away from the Treasury, but if it was desirable that the two should be under the same roof we ought to have a distinct separation of them. There should be no communication between the two Departments.

503. I suppose that could be arranged by a regulation, could it not? Yes; as Auditor-General I could prohibit my clerks from going into the Treasury,—in fact, I have done so to a large extent.

504. If you are paying a thousand a year for rent, that is 4 per cent. on £25,000? Yes.

505. Do you not think that for less than £25,000 the accommodation which you need could be provided in the Treasury buildings? I am not prepared to say what amount would be required.

506. How many officers are there on your staff? About forty now; I reduced them during last year by six.

507. Then assuming that ample provision could be made for your staff in the Treasury buildings, with precautions against intercourse between the two Departments, you would see no objection to both branches occupying one building? I should be prepared to do so.

508. We have had some information with regard to the books which are kept in the Treasury, and the necessity to provide a strong-room for their accommodation;—would it be necessary to provide a strong-room for your Department? I can only say that my records, in my opinion, are more valuable than those in the Treasury, for there is a great deal in my records that could not possibly be replaced, whereas if the Treasury books were destroyed there would be ample means of restoring the information.*

509. Then your evidence is that there is no information contained in the Treasury which could not be supplied by your Department and other Departments of the Public Service? Quite so. Perhaps I might mention that one of the chief controversies between the Treasury and myself is as to the books for registering conditional purchases. They say, and I know it is a fact, that they have upwards of 200 of these registers occupying a large space, but my registers contain all the same information that they do, except the names of the holders of the conditional purchases. All those books are now reduced to twenty-five, and that provides for registering for the next three years, and all those books are contained in a room 20 feet square.

510. Is this your evidence: that the information contained in the 200 books in the Treasury is also contained in twenty-five books in the Audit Office? Yes; except as to the names of the selectors.

511. Then the names of the selectors are represented by numbers? Yes.

512. And how do you identify the owner with the number? I do not need to know the owner. It is the selection that is liable for the interest and the instalments.

513. But where is the number associated with the name? That is all in the Land Agents' registers in the country districts. I say it is perfectly useless to transcribe all that information into the registers of the Treasury. The connection between the numbers of the conditional purchasers and the owners is all contained in the Land Agents' registers in the different Land Agents' offices, and more than that the vouchers which the Land Agents send with their remittances to the Treasury contain the numbers and the names, and those vouchers are all filed in my office.

514. So that seeing the number of the selection in one of your registers would enable you to immediately refer to a document in the office which would give you the name and all information connected with the selection? Yes. That is quite right. I may just as well say that the name of the holder, the interest being paid only once a year, about March, may have been changed half-a-dozen times. I can only go by the last voucher which the Land Agent sends with his remittance to the Treasury. The Lands Office is the place where the latest information can be got.

515. Are all dealings with selections recorded in the Lands Office? Yes. They have a complete history of all the land selections throughout the country.

516. Is a similar record kept in the Treasury? They record all the names, and those names that are not got by them are got from the Lands Department.

517. Therefore, the information contained in the books of the Treasury is obtained from the Lands Department? Yes.

518. And that information would be accessible if you required it? Yes.

519. And all the local Land Agents have similar information to that which is recorded in the principal office? Yes. And they have more, because the great bulk of the instalments and interest is paid to the Land Agents in the different districts.

520. Does the Lands Office in Sydney receive from the Land Agents throughout the country all the information that is contained in the local offices? I do not think that the Land Agents report to the Lands Office the sums that they receive and pay in; I think they do not, but, at all events, the information is there. That is the prime source of all information in regard to transactions between the Government and the free selectors.

521. Have you any fire-proof room? No.

522. Do you not think it is necessary to have some safe room in which to keep your records? I should be very glad of it, but the question has never come before me in any serious shape. The discussion about the books and the fire-proof room led me to consider that if I had a fire-proof room to keep the twenty-five registers in it would be all the better in case of any accident, and I may say the same with regard to our lease registers, a different set of books altogether. That is to say, registers of the land rentals.

523.

* NOTE (*on revision*):—I wish it to be understood that my answer refers only to Treasury record books of receipts and payments, and not to documents and papers peculiar to the Treasury Department.

E. A. Rennie, Esq. 28 Jan., 1896.

523. Registers of the pastoral leases? All the land rentals, pastoral, occupation licenses, and everything; they are contained in about twenty volumes, all in a room about the same size as the other which I have mentioned, and they are managed by one clerk.
524. If it is necessary to provide a fire-proof room as in the Treasury, it should be equally necessary to provide a similar room in your Department, should it not? I think more so.
525. How many officers have you engaged upon the conditional purchase registers? The great bulk of the work happens to take place about March, April, and May; during that period I should put on the registers perhaps five or six clerks. The whole work connected with the conditional purchase registers would occupy the time and labour of one clerk for twelve months.
526. Can you explain how it becomes necessary to use 200 registers in the Treasury whilst you use only twenty-five? Well, I apprehend the reason is that they are obliged to spread their accounts over so large a space to provide for inserting the name. That is the only thing I know of about that. The earlier registers which the Treasury now keep were very much in the same form as mine used to be. Lately I got rid of thirty or forty of these old registers, and reduced the number to eight.
527. Do you definitely state that the whole of the information contained in the registers used in the Treasury, with the exception of the names, is contained in the twenty-five registers in use in the Audit Department? I know that that is the main difference between the Treasury registers and mine, but I should not like to say that all that they have inscribed in those books at the Treasury is to be found in mine.
528. Do your twenty-five registers contain all the information, whether in a condensed form or not, that is contained in the 200 registers in use in the Treasury? I should say that they do. We might illustrate it in this way: Supposing a conditional purchase to have been taken up twenty-five years ago; that is entered in the Treasury by name as well as by number, with the area and the annual rate of instalment. These condensed registers of mine, the thirty-eight which I said just now were reduced to eight, run up to the year 1876. The new registers instead of re-entering all that occurred before simply show in the first column the amount paid up to a certain date.
529. Your books contain all the information about payments? By the records in my Department I can tell the position of every conditional purchase account.
530. *Mr. Davies.*] What is the total amount of the balances due from conditional purchases at the present time? I could not tell you.
531. Could you not obtain the amount from the documents in your office? Certainly.
532. How long would it take you to obtain that statement? I should not like to say. There are 150,000 accounts. I could make up the amount due at the present time, and I could also compute the amount that would be due supposing that the payment of instalments were to run on for the full period of twenty-five years.
533. Perhaps you will be kind enough to do that? It would occupy some time, and my strength is not sufficient for it.
534. Before this inquiry is closed, could you do it? It would be a very long process.
535. *Chairman.*] It is in existence, is it not? I believe the Treasury have it.
536. *Mr. Davies.*] I want to verify a statement of that kind made by the Treasury Department. Supposing the Treasury records were burnt, could the information be obtained? It could be made up from my records to-morrow.
537. Do you destroy the records at any time? Some of the vouchers have quite recently been destroyed—the vouchers up to 1884, land vouchers excepted.
538. The records for the most recent dates that you have destroyed were up to 1884? Yes; the registers and books are not destroyed. My records run back to the very beginning of the office.
539. I presume that you are compelled to destroy the vouchers in order to provide space? Yes.
540. It has been the practice to destroy them after a number of years? Yes. When we shifted out of Castlereagh-street, I destroyed a very large number, going as far back as 1825. We found that they were never referred to, and that there was no reason to keep them.
541. I presume that the vouchers you speak of were destroyed under your own personal supervision? Not my own personal supervision. The first lot was sold to the paper-mills, and the last portion, quite recently, was sent to Cockatoo Island to be destroyed in the furnace there.
542. I suppose that most of the documents are brought under your notice before being destroyed? No. I give directions as to which are to be preserved and which are not.
543. In connection with your present offices, have you ample room for the conduct of your business? I would not say that we have ample room; it is the accumulation of records that requires space more than anything.
544. And you have made room by destroying them? Yes; but we keep about ten years' documents on hand.
545. Would it not be more in accord with the requirements of your Department if suitable offices were constructed, with a strong-room and every provision for the safety of the documents? Yes. One disadvantage of the present offices—in fact, of nearly all the public offices—is the multiplication of small rooms. We want large rooms where a large proportion of the clerks can be brought under the supervision of the head.
546. You believe that if proper offices were erected, where you could have a number of clerks, there would be greater economy and greater efficiency? No doubt.
547. In view of that fact, would you favour the erection of large Treasury buildings providing the accommodation which would be necessary for your Department, distinctly apart from the Treasury, although under the same roof? I should like an office built expressly to suit my purposes. I may as well say that, as time progresses, it is not at all unlikely that the work will be reduced. Certain arrangements may be made which would have the effect of reducing my work and reducing the number of my clerks, and also the space necessary. I have long felt that we have a larger establishment than the public may consider necessary for audit purposes.
548. Have you indicated the sort of reform which might be brought about? Only in a desultory way, in evidence before the Civil Service Commission.
549. You quite contemplate a change of that kind? Yes; I have no doubt that a considerable amount of difference in the work, at any rate, could be made.
550. Your Department is altogether distinct from the Treasury? Quite. We are quite independent of the

E. A. Rennie, Esq. 28 Jan., 1896.

the Treasury, and that is one reason why I do not want to be too close to them. They have no right to come and interfere, and say, "You shall do this, or that." I have the Act to guide me.
551. The Audit Act is your charter? Yes.
552. *Mr. Fegan.*] I understand that you would have no objection to your Department being at the Treasury, but you do not wish your officers to have intercourse with the officers of the Treasury Department? There should not be too close an intercourse between them.
553. What is your reason for that objection? Well; it is a very old objection—that auditors and accountants are more likely to drift into mutual advisers than to be mutual checkers.
554. I understand you to say that strict intercourse would cause a suspicion as to the competent working of the Department? There has been unsatisfactory feeling about it.
555. How many rooms are there in the two offices that you have now? I could not say just at once.
556. Are all the rooms occupied? They are.
557. Do you find any inconvenience from being away from the other public offices? Not the slightest.
558. I suppose you have nothing whatever to do with the public? No.
559. That being so, it makes your business different from that of the other public offices? Quite so.
560. Have you heard of any complaints being made as to the necessity for more accommodation in the Treasury? I cannot say that I have, except from themselves.
561. How many clerks have you under you? About forty. I think the Treasury has double that number.
562. I suppose the work of your Department is extending every year? During the last two or three years it has not been so heavy. I think that is owing to the limitation of expenditure.
563. I suppose that at one time you had to deal with the Railway accounts? I have to deal with the Railway accounts now, just the same as the accounts of any other Department.
564. Since the Commissioners came into office? Just the same.
565. I understood you to say that it was useless for the Treasury Department to transcribe certain information because it could all be obtained elsewhere? I say it is useless.
566. Therefore it would not be a national calamity if a fire took place and destroyed the Treasury books? Certainly not.
567. Information could be got at your office at a very little expense? Yes; and if anything should be found wanting in my Department it can be got from the Land Agents.
568. Do you think from your knowledge of the various Departments that room could be found in some of the other offices for these Treasury books? It has been my opinion for years that if those books are kept at all they should be kept in the Lands Office.
569. You think that those books in connection with the lands should be at the Lands Office—not at the Treasury? Certainly. I hold that the Secretary for Lands is the landlord for the Crown, and he ought to have all the information there that a landlord should have.
570. Do you know whether, in the Lands Office, they have books similar to those kept at the Treasury? I think not. I am pretty certain that they do not keep registers of conditional purchases the same as the Treasury, because the Land Agents are officers of the Lands Department, and all the information is in possession of those Agents throughout the country.
571. Are those Land Agents supervised by Treasury officials? Treasury inspectors go round now and again and inspect the different offices.
572. Therefore, they are really under the Treasury, to a certain extent? Yes; but they are officers of the Lands Department nevertheless.
573. It appears that they are officers of the Lands Department and officers of the Treasury? They become officers of the Treasury because they are the Agents of the Lands Department for collecting the money, that is, public accountants under clause 1 of the Audit Act of 1870.
574. Do you think it would inconvenience the selectors if the books were removed from the Treasury to the Lands Office? No, I do not see how it could, except that now a banker or an agent in Sydney, gets instructions from a selector in the country, to come and pay over his money at the Treasury counter; but I hold distinctly that it is a mistake that the payment of these moneys should be optional either at the country office or at the Treasury. It ought all to be paid at one place. It will simplify matters immensely.
575. You would make it necessary that the money should be paid into a certain office in the district where the selector has his run? I think that would be better.
576. You think that would do away with a great deal of work? A great deal. The Treasury have to make an abstract of the money which they receive over the counter, and send it for inscription in the country offices. That is an absurd proceeding.
577. I suppose that the Lands Department is not responsible altogether for the payment of this money to the Treasury? No, I cannot say that they are. Under a proper arrangement the Land Agents ought to collect the money for the Lands Department.
578. And only deal with the Lands Department? Yes.
579. And they should have nothing to do with the Treasury? Only in making remittances of the money which might be done through the Lands Department.
580. Do you think that would economise time and office room? That is my opinion.
581. *Mr. Clarke.*] You said that the names of the selectors are not in your Department, only the numbers? That is in my registers; but I have all that information on the vouchers.
582. You approve of the selectors' balances being paid at the Lands Department instead of at the Treasury? I think that is the better way.
583. In that case would not the Lands Department have to send the money to the Treasury then? Ultimately all money must go into the public account, whether at the Treasury or at the Bank.
584. Would not that cause more trouble to the public? I do not think so.
585. What reason do you give why the money should be paid to the Lands Department instead of to the Treasury? Simply that I hold that the Lands Department represents the Crown and it ought to collect and account for all moneys derived from land.
586. Then how would you manage with the money received from the country from the various lands offices? They could be sent to the head office in Sydney just the same as they are now sent to the Treasury.

587.

E. A. Rennie, Esq. 28 Jan., 1896.

587. Is not all revenue paid into the Treasury? It all comes to the Treasury in some shape or form ultimately. There are about 3,000 schools throughout the country, and all the money from those schools is sent down to the Public Instruction Department, and that Department pays it over in one sum to the Treasury monthly.
588. As a rule is not the money from other sources, such as publicans' licenses, paid into the Treasury? That is a special thing. The customs duties are all paid into the Bank, the money not going into the Treasury at all, and the money from the railways is paid into the Bank, but it all goes into the public account.
589. Are those accounts audited by you? Yes; all vouchers for both revenue and expenditure come under my notice.
590. Do you not think it would be advisable to have the Treasury and your Department under the same roof, or contiguous to each other? I prefer to have them separate, but if they were placed under one roof they ought to be kept separate by a dividing wall and such regulations as would render my work entirely independent of other Departments.
591. You say that the Department pays £1,000 a year for the premises which you now occupy? Yes; we are trying to get that reduced.
592. Would it not be a saving to the public to have a building erected to accommodate both your Department and the Treasury so as not to be paying rent? Certainly.
593. You advocate larger rooms? Yes.
594. That is in order to have the various officials brought under better supervision? Yes.
595. That I presume would be another reason why you should not be renting buildings? Quite so.
596. *Mr. Hassall.*] Is it not a fact that many of the selectors' balances are paid to the local Land Agents? A large proportion of them. I can give you the figures. The amount credited at the Treasury during 1894 for instalments on conditional purchases was £819,000. Of that amount only £113,000 was paid over the counter.
597. That is about one-eighth? Yes, about that; and £76,000 of that £113,000 was paid in March, and I believe that the great bulk of it was paid over by the Banks.
598. The Land Agents collect the most of the money and remit it to the Treasury? Yes, with vouchers, and the vouchers come to me for audit.
599. Do you not think it possible that all the transactions connected with the lands might just as well be confined to the Lands Department, so as to save the Treasury clerks from having to occupy time in dealing with these unpaid balances? That is my opinion.
600. You are of opinion that a great saving could be effected by these payments being made to the Lands Department? Yes. In connection with that I may mention that the amount credited during 1894 for interest on selections under the Act of 1861 was £84,000; and of that amount £7,600 only was paid at the Treasury, and I say it is useless to transcribe it into their books.
601. You think it is a sort of labour that could be dispensed with? I do.
602. You say that you destroyed all the vouchers dating up to 1884? Yes, land vouchers excepted.
603. You have a record of all vouchers since that date? Yes.
604. You say that a great deal of room is taken up by storing records? Yes.
605. Is it absolutely essential that those records should be kept in your Department? We are constantly having to refer to them; if we had to go all over the place to turn them up it would occupy a great deal of time.
606. Supposing a large room was available in the Lands Office, and the records were kept there with a clerk or two in attendance, and communication established by telephone? There would be considerable inconvenience in connection wtth that arrangement.
607. Do you think you could erect a building for £25,000 more suitable to your requirements than the one which you are now paying £1,000 a year for? I should say that £25,000 would build us a palace. I think £10,000 would be ample to build an office for our requirements. If you were to build a new office for the Treasury, and give me the old Treasury buildings, they would suit me with a little alteration.
608. I suppose you would require a strong-room? We should be better for it, though we have never realised the necessity for a fire-proof room, never having had any accidents.
609. In the event of your documents being destroyed could you replace them? Many of them we could not, especially the documents relating to expenditure. We have a considerable number of these which we call ledgers, but they are really catalogues of payments and of vouchers. They run back as far as 1830, but they are all in sequence, and give a complete history of the expenditure.
610. Have you no strong-room at all? No. We have a small safe, but it is not for that purpose. If these ledgers were destroyed a very large amount of useful information could not be replaced.
611. In the event of your office being established in a new building erected for the Treasury, I presume that the strong-room would suit your requirements as well as theirs? Yes. The present Treasury buildings have a large vault where they have stowed away all their old records. If that were converted into a fire-proof room it would be useful.
612. In your opinion a large saving might be effected by the Lands Department transacting all the business in connection with the land through its various country offices instead of the Treasury dealing with money matters as they do at present? I think so. A very large amount of correspondence which is useless might be saved.
613. *Mr. Hoskins.*] Did you ever represent to any Minister the propriety of having a fire-proof room erected in a building which you occupied or were going to occupy, so that you could store these twenty-five registers of conditional purchases? I have not.
614. Do you not think there ought to be a fire-proof room in your establishment? I think it would be desirable now that we have got these new registers.
615. You have stated that you have official documents which if burnt could not be replaced. Do you not think that as a matter of precaution you ought to have a fire-proof room? I should be very glad to have one, but it has never occurred to me to represent it. The question never came up.
616. It is proposed to spend a large sum of money in erecting a fire-proof room to prevent the registers of the Treasury from being destroyed. Do you not think there is a necessity for the same thing at the Audit Office? If the registers of the Treasury were destroyed I think I may say with all certainty that the information necessary for almost any purpose could be got from either our Department or the Lands Department.

E. A. Rennie, Esq. 28 Jan., 1896.

617. Does that not show the necessity for the Audit Department having a fire-proof room to keep their records in? I admit that.
618. Do not you think it would be an advantage if a large building was erected on the vacant land opposite the Works Department to accommodate the Treasury, the Audit Department, and the Mines Department? It is just possible that it might be a great convenience, but I am not prepared to say how far it would be advantageous to have the Departments all together in that way.
619. Supposing some people came from the country and had to go to the Treasury, they would have to go some distance from there to get to other Departments, would it not be a convenience to have them altogether? Yes. I may mention that at the time when I was appointed Auditor-General there was a question about extending the present Lands Office buildings and the recent wing was begun and steps were taken to complete it by the Ministry of Sir Alexander Stuart, and I understood from him that that wing was intended to provide accommodation for my Department.
620. But you have never yet been informed that it was available? No; but it was pretty well understood that that new wing was to provide accommodation for my Department.
621. What use has it been put to? I think it is now occupied by the Mines Department.
622. If they built a new Mines Office would not that be available? I believe so.
623. In about a year the lease of the building which you now occupy will terminate? Yes.
624. Have you ever thought what should be done after that? I was prepared to recommend that the lease be extended for a few years if we could obtain favourable terms from the landlord.
625. Seeing that you have important registers do you not think that a fire-proof room is necessary? I certainly think we ought to have it. If a fire-proof room were provided we could continue to occupy our present premises if the room was not too far away.
626. Did it ever occur to you that having three parties dealing with land matters—the local Land Agent, the Lands Department, and the Treasury—is really unnecessary, should not two suffice? The Land Agents and the Lands Department are one.
627. If the business were all transacted by that Department and the Audit Office would that not be enough? It would be quite enough.
628. Do you not think the proposed additions to the Treasury to house the Lands Office portion of their business unnecessary? I do.

William Henry Capper, Esq., Clerk-in-charge, Sales Division, Department of Lands, sworn, and examined:—

W. H. Capper, Esq. 28 Jan., 1896.

629. *Chairman.*] What are you? I am Clerk-in-charge of the Sales Division of the Lands Department.
630. Can you give a statement as to how you manage your conditional purchase affairs—the leases and the conditional purchases? Yes.
631. Can you tell us the routine? The routine in regard to an application for a conditional purchase or conditional lease, is this: An application is lodged with the local Land Agent in the district in which the land is situated. The application is received by the Land Agent with a deposit. The Land Agent sends the application to the Chairman of the Local Land Board. The money is sent to the Treasury. The principal work takes place in the Local Land Board Office. The application is of course submitted to the District Surveyor, and if the land applied for is measured he simply reports it, and if it is available the application is returned to the Chairman of the Local Land Board, and within a certain time it is brought before the Board for confirmation or disallowance. If the land is unmeasured of course instructions are issued to the measuring surveyor. The measuring surveyor measures it, prepares his plans, and sends them to the District Surveyor, who then sends the application to the Chairman of the Local Land Board. With regard to the collection of revenue that is in the hands of the local Land Agent: The purchasers of land pay their money to the local Land Agent or to the Treasury. It is convenient for many living in Sydney, and for companies, whose offices are in Sydney, to pay direct to the Treasury. When that is done the Treasury informs the local Land Agent so that they may have their books brought up to date. We have no record of the payment in our Department beyond the payment of the deposit in regard to conditional purchases.
632. The basis of the Treasury's information is the Land Agent's office? Yes, his vouchers.
633. Have you in your office a duplicate of the district officer's statements? No. We have no statement but the yearly statements that we get from the Treasury. The annual statements of those who have not paid in regard to their conditional purchases. Then we take steps to collect those overdue payments. In our efforts to collect the money we have to refer to the Treasury to find out whether any of the defaulters have paid. Of course we could refer to the Land Agent, but as the Treasury is so close we find it more convenient to consult the Treasury. Besides these conditional purchase accounts there are auction sale accounts, and various others which are kept at the Treasury after going through the Land Agents' books. Pastoral lease accounts are paid direct to the Treasury as required by regulation 266 under the Crown Lands Acts. In the conditional lease cases all accounts have for their basis the Land Agents' books.
634. If you wanted a statement as to how a conditional purchase stood you would have to send to the Treasury? We have no record of payments in the Land Office, but the Land Agent knows exactly how the payment stands.
635. The Land Agent deals with the Treasury in regard to all money matters? Yes.
636. And virtually he is an officer of the Treasury Department in regard to money matters? He is a public accountant, and consequently is subject to periodical inspection by the Treasury inspectors.
637. Have you an opinion as to whether it would be better to manage the accounts from the Lands Office? I have really not formed an opinion.
638. You have no opinion as to what would be a proper policy? I have not. We used to keep accounts in connection with pre-leases in the Department. When I took over the Sales Division, auction accounts were kept in that division, and it appeared an anomaly for us to keep accounts of auction sales only and not to have accounts of the other transactions. I therefore brought the matter under notice, and the business was transferred to the Treasury.
639. What information do your local officers send to the Auditor-General? They have to send attested accounts to the Auditor-General.

W. H. Capper, Esq. 28 Jan., 1896.

640. Are they as full as the statements that go to the Treasury? Yes.
641. Could all the information to be found at the Treasury be also found at the Auditor-General's Office? I do not know.
642. Do you not know what the Land Agents send? Yes—all particulars with regard to payments. They send vouchers to the Treasury each week.
643. Do they send the same information to the Auditor-General that they send to the Treasury? No. The Auditor-General receives the Land Agents' vouchers from the Treasury after the money has been credited by that Department. He also receives attested quarterly accounts direct from the Land Agent. I hand in a detailed account of the different collections by the Land Agents.

WEDNESDAY, 15 *JULY*, 1896.

Present:—

THOMAS THOMSON EWING, Esq. (Chairman).

The Hon. Frederick Thomas Humphery.	Charles Alfred Lee, Esq.
The Hon. Charles James Roberts, C.M.G.	John Lionel Fegan, Esq.
The Hon. William Joseph Trickett.	Thomas Henry Hassall, Esq.
The Hon. Daniel O'Connor.	Francis Augustus Wright, Esq.
Henry Clarke, Esq.	Frank Farnell, Esq.

The Committee further considered the proposed Additions to the Treasury Building.

Charles Lyne, Esq., Secretary to the Public Service Board, sworn, and examined:—

C. Lyne, Esq. 15 July, 1896.

644. *Chairman.*] Have you a statement to lay before the Committee? Yes.

The Public Service Board do not at present propose to make any reduction in the number of officers in the Treasury, nor any alteration in the work which is now being carried on there.

For the present therefore the accommodation needed is that which is required for the number of officers now employed.

With regard to the accommodation which exists for the Accountant's branch of the Department, the Board think that alterations are necessary—that better accommodation should be provided; but with respect to the room in which the conditional purchase registers and staff are located, they cannot now say anything, as, for the present, they do not propose to make any change in regard to the work done there or the staff doing it.

When the Board have an opportunity for again inspecting the Departments, some changes may or may not be made in respect of certain work now being done in the Treasury, but should alterations be made in the future it is not likely that the staff of the Treasury will be reduced in number from what it is at present.

The Board are of opinion that while the conditional purchase and other registers are kept in the Treasury, a properly-fitted strong room should be provided, and in all probability a room of this kind will be a very desirable addition to the Treasury, whatever may be done in the future.

645. *Mr. Humphery.*] Have the Public Service Board considered the plans of the proposed alterations? No, they have not considered the plans. I do not think they would consider that to be a matter for them to look into.
646. They have not given any consideration then to the proposed alterations in connection with the accommodation to be afforded to the staff which it is proposed to retain? Not in connection with the plans, so far as my knowledge goes.
647. *Mr. Wright.*] I suppose they think that the consideration of the plans is a matter that properly appertains to the Treasury officers? I have no doubt the subject has been mentioned to them in connection with the Treasury Department.

Sydney: Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PARTICULARS OF EXPENDITURE ON PUBLIC WORKS.

(RETURN RESPECTING.)

Printed under No. 19 *Report from Printing Committee*, 24 *September*, 1896.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 2nd July, 1896, That there be laid upon the Table of this House, a Return showing,—

"(1.) The particulars of all public works over £5,000 initiated and "completed during the term of office of the present Administration.

"(2.) The total expenditure thereon—(*a*) from Loan Votes; (*b*) from "Revenue.

"(3.) The particulars of all public works now in course of construction "over and above the sum of £5,000, giving the nature of the work and "probable cost, as per contract.

"(4.) In what manner will this expenditure be distributed—(*a*) as to "Loan Votes; (*b*) as to Revenue."

(*Mr. W. H. B. Piddington.*)

RETURN showing (1) particulars of Public Works over £5,000 initiated and completed during the term of office of the present Administration; (2) total expenditure thereon, payable from Loan and Revenue Votes:—

DEPARTMENT OF PUBLIC WORKS.

Public Works.	Payable from Loan Votes.	Payable from Revenue Votes.	Total.
METROPOLITAN WATER AND SEWERAGE BOARD—	£ s. d.		£ s. d.
Gordon water supply	15,000 0 0	.....	15,000 0 0
Laying 18-inch and 15-inch trunk mains, Redfern and Alexandria	6,746 10 1	.....	6,746 10 1
HARBOURS AND RIVERS BRANCH—			
Concrete dam, Junee water supply	6,324 9 1	.....	6,324 9 1
New berth, Circular Quay	5,733 6 2	.....	5,733 6 2
GOVERNMENT ARCHITECT'S BRANCH—			
Richmond Agricultural College	7,417 18 7	.....	7,417 18 7
Additions, Supreme Court	8,908 0 0	.....	8,908 0 0
SEWERAGE CONSTRUCTION BRANCH—			
Excavation for Centennial Park reservoir	11,454 7 5	.....	11,454 7 5
£	61,584 11 4	.....	61,584 11 4

SUMMARY.

	£ s. d.
Metropolitan Water and Sewerage Board	21,746 10 1
Harbours and Rivers Branch	12,057 15 3
Government Architect's Branch	16,325 18 7
Sewerage Construction Branch	11,454 7 5
	£61,584 11 4

Public Works Department,
3/9/96.

THOMAS R. STEEL,
Accountant.

422—

RETURN

[605 copies—Approximate Cost of Printing (labour and material), £2 12s. 3d.]

RETURN showing particulars of Public Works over £5,000 now in course of construction, probable cost of same, which will be distributed as under:—

DEPARTMENT OF PUBLIC WORKS.

Public Works.	Payable from Loan Votes.	Payable from Revenue.	Total.
METROPOLITAN WATER AND SEWERAGE BOARD—	£ s. d.		£ s. d.
Laying 18-in. trunk main, Chatswood, North Sydney	12,000 0 0	.....	12,000 0 0
Laying 20-in. steel and cast-iron mains in lieu of existing mains from Petersham reservoir to Rockdale	20,908 0 0	.....	20,908 0 0
Improvements to water supply, Hurstville, including pumping plant, Carlton	10,000 0 0	.....	10,000 0 0
Improvements to water supply, Strathfield and Enfield	5,977 0 0	.....	5,977 0 0
,, ,, City of Sydney	5,913 0 0	.....	5,913 0 0
City and suburbs—ventilating shafts, &c.	12,637 10 0	.....	12,637 10 0
20,137 lineal feet pipe-sewers, North Sydney	5,833 6 8	.....	5,833 6 8
29,728 lineal feet low-level system, Alexandria, Macdonaldtown, and Newtown	5,512 10 0	.....	5,512 10 0
HARBOURS AND RIVERS BRANCH—			
Flood-relief channel, Tuckombil Creek, Richmond River	5,155 4 0	.....	5,155 4 0
New berth, Circular Quay	5,413 0 7	.....	5,413 0 7
Training wall, Nambucca River	6,000 0 0	.....	6,000 0 0
,, Manning River	16,000 0 0	.....	16,000 0 0
Pipes for duplicate rising main, Walka to Buttai	15,920 11 1	.....	15,920 11 1
Storm-water drain, Johnston's Creek	9,500 0 0	.....	9,500 0 0
GOVERNMENT ARCHITECT'S BRANCH—			
West Maitland court-house	11,655 0 0	.....	11,655 0 0
Parramatta court-house	11,796 11 3	.....	11,796 11 3
Kenmore Asylum	47,053 14 6	.....	47,053 14 6
RAILWAY CONSTRUCTION BRANCH—			
Railway, Narrabri to Moree	36,452 3 8	.....	36,452 3 8
,, Berrigan to Jerilderie	19,879 8 6	.....	19,879 8 6
,, Parkes to Condobolin	19,615 1 6	.....	19,615 1 6
ROADS AND BRIDGES—			
Reconstruction, timber approaches, &c., Gundagai bridge	12,591 15 6	.....	12,591 15 6
Bridge, Kangaroo River	6,985 0 0	.....	6,985 0 0
,, Morpeth, Hunter River	7,769 0 0	.....	7,769 0 0
,, M'Intyre River, at Inverell	9,859 9 6	.....	9,859 9 6
,, Murray River, at Swan Hill	7,449 18 11	.....	7,449 18 11
SEWERAGE CONSTRUCTION BRANCH—			
Main Northern sewers, 1st division	18,318 0 0	.....	18,318 0 0
Lavender Bay and Blue's Point sewerage	12,400 0 0	.....	12,400 0 0
Double Bay Creek storm-water channel	9,890 0 0	.....	9,890 0 0
Balmain and Leichhardt, Western Suburbs, 3rd division	7,279 4 0	.....	7,279 4 0
Arncliffe, Western Suburbs sewerage, 4th division	17,362 14 4	.....	17,362 14 4
Main Northern sewers, 2nd division	15,500 0 0	.....	15,500 0 0
Willoughby outfall works	6,900 0 0	.....	6,900 0 0
Eastern branch sewer, 2nd division	23,621 13 5	.....	23,621 13 5
£	439,148 17 5	.....	439,148 17 5

SUMMARY.

	£ s. d.
Metropolitan Water and Sewerage Board	78,781 6 8
Harbours and Rivers Branch	57,988 15 8
Government Architect's Branch	70,505 5 9
Railway Construction Branch	75,946 13 8
Roads and Bridges Branch	44,655 3 11
Sewerage Construction Branch	111,271 11 9
	£439,148 17 5

Public Works Department,
3/9/96.

THOMAS R. STEEL,
Accountant

Sydney: Charles Potter, Government Printer.—1896.

[3d.]

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

THE ANNUAL REPORT

OF

THE POSTMASTER-GENERAL,

FOR THE YEAR

1895.

Printed under No. 12 *Report from Printing Committee* 6 *August*, 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP STREET.

1896.

[2*s.* 3*d.*] *104—*a*

[1,060 copies—Approximate Cost of Printing (labour and material), £124 2s. 6d.]

THE POSTMASTER-GENERAL TO HIS EXCELLENCY THE GOVERNOR.

ANNUAL REPORT FOR THE YEAR 1895 ON THE POST OFFICE, MONEY ORDER OFFICE, GOVERNMENT SAVINGS BANK, AND ELECTRIC TELEGRAPH DEPARTMENT.

MY LORD,

I have the honor to transmit to your Excellency the Annual Report for the year 1895 on the Department under my ministerial control.

REVENUE AND EXPENDITURE.

The following Statement shows the Revenue and Expenditure for the year 1895, as compared with 1894:—

	1894.		1895.	
Revenue.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Postage	451,763 11 10		465,184 4 6	
Less amount transferred to Stamp Duties as the approximate value of Postage Stamps used as Duty Stamps during the year	24,000 0 0	427,763 11 10	24,000 0 0	441,184 4 6
Fees for Private Bags and Boxes	.....	6,421 7 2	.....	6,206 2 8
Collections from other Governments	.....	3,971 4 7	.....	4,505 2 11
Electric Telegraphs	.....	146,669 1 4	.....	149,102 4 6
Telephones	.....	20,298 1 6	.....	25,955 10 5
Money Order commission	.....	15,836 17 6	.....	14,978 8 6
Poundage on Postal Notes	.....	3,877 13 4	.....	6,316 12 4
Interest on Savings Bank Investments	.....	100,774 17 1	.....	86,288 13 0
Interest due on uninvested Savings Bank balances in Treasury	.....	33,250 8 6	.....	41,384 17 9
Miscellaneous receipts	.....	2,026 5 10	.....	603 9 4
TOTAL	.....	760,889 8 8	.....	776,525 5 11
Balance of Expenditure over Revenue	.....	123,966 12 11	.....	115,373 9 4
		884,856 1 7		891,898 15 3
Expenditure.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries	.....	426,312 14 5	.....	427,255 0 4
Postal and Telegraphic working expenses other than those specially shown herein	.....	86,384 16 8	.....	84,064 17 1
Conveyance of Mails:—per horse, coach, &c.	95,867 8 6		95,805 11 8	
,, ,, ,, railways and tramways	67,515 2 3		67,702 18 8	
,, ,, ,, steam and sailing vessels—non-contract	5,984 10 8		5,949 14 4	
,, ,, *viâ* Suez	31,992 11 8		28,562 16 8	
,, ,, ,, San Francisco	4,000 0 0		4,000 0 0	
,, ,, ,, Vancouver	9,310 0 0	214,669 13 1	8,333 6 8	210,354 8 0
Cable Subsidies, &c.	.....	17,313 12 4	.....	20,435 10 10
Interest allowed to Savings Bank Depositors	.....	120,880 8 6	.....	128,640 10 9
Postage Stamps re-purchased from public, and used as remittances by public officials	.....	13,779 11 8	.....	15,477 1 0
Allowance to Railway Department for transacting postal and public telegraph business at railway offices	.....	5,515 4 11	.....	5,671 7 3
TOTAL	.....	£884,856 1 7	.....	891,898 15 3

The following are the items of expenditure paid from Votes under the control of other Ministers:—

	1894.	1895.
Stores and stationery	£4,942 6 3	£3,932 13 9
Repairs and additions to buildings	3,673 18 6	5,297 1 7
Furniture (including carriage)...	96 4 1	116 9 5
Printing, bookbinding, *Gazette* advertisements, *Gazettes*, &c..	13,855 0 1	10,535 10 3
Printing postage-stamps	4,833 14 10	4,814 16 8
Do postal notes	221 5 6	329 16 9
Municipal and other rates	2,487 1 11	2,428 14 9
Postage	722 3 10	780 0 0*
Advertising in newspapers	524 13 0	352 0 7
Fuel and light	2,628 2 0	2,311 12 5
Total	£33,984 10 0	£30,898 16 2

*Estimated.

The interest on the cost of construction of Electric Telegraph Lines is estimated at £33,615, and the interest on the cost of buildings owned by the Government, and used as Post and Telegraph Offices in various parts of the Colony, is estimated at £31,366.

Adding the expenditure on account of the services of the Postmaster-General from the Votes of other Departments, and the interest on the cost of buildings and construction of telegraph lines, the expenditure properly chargeable to the Department under my control for the year 1895 was £987,778 11s. 5d., or £211,253 5s. 6d. in excess of the revenue for the same period.

Intercolonial Postal and Telegraphic Conferences.

A Postal and Telegraphic Conference, attended by the following representatives, was held at Hobart in February, 1895:—

New South Wales:	The Hon. Joseph Cook, M.P., Postmaster-General. S. H. Lambton, Esq., J.P., Deputy Postmaster-General.
Victoria:	The Hon. John Gavan Duffy, M.P., Postmaster-General. James Smibert, Esq., Deputy Postmaster-General.
South Australia:	The Hon. J. A. Cockburn, M.D., M.P., Minister of Education, &c., &c. Sir Charles Todd, K.C.M.G., Postmaster-General.
Queensland:	The Hon. A. J. Thynne, M.L.C., Postmaster-General. Jno. M'Donnell, Esq., Under Secretary to the Post and Telegraph Department and Superintendent of Electric Telegraphs.
Western Australia:	Sir John Forrest, Premier.
Tasmania:	The Hon. P. O. Fysh, M.H.A., Treasurer and Postmaster-General. H. V. Bayly, Esq., Secretary to the Post Office.
New Zealand:	The Hon. J. G. Ward, M.H.R., Treasurer, Postmaster-General, and Electric Telegraph Commissioner. Wm. Gray, Esq., Secretary to the Post and Telegraph Department.

A full report of the proceedings of this Conference has already been laid before Parliament, and as the principal recommendations were quoted in my last Report, it is unnecessary to repeat them here.

Although the matter really relates to the record of proceedings of the year 1896, I may mention that a special Ministerial Postal and Telegraphic Conference was held at Sydney on the 17th, 18th, and 20th January, 1896, when the various Australasian Colonies were represented as follows:—

New South Wales:	Hon. Joseph Cook, M.P., Postmaster-General, New South Wales, who acted as President of this Conference.
New Zealand:	Hon. W. P. Reeves, New Zealand.
Queensland:	Hon. A. J. Thynne, M.L.C., Postmaster-General, Queensland.
South Australia: *Tasmania:*	Hon. J. A. Cockburn, M.D., M.P., Minister for Education and Agriculture, South Australia.
Victoria:	Hon. J. Gavan Duffy, M.P., Postmaster-General, Victoria.

The

The subjects that received consideration were the proposed cable communication across the Pacific Ocean to America, and the proceedings connected with the invitation for tenders for the new contract for the Federal Mail Service to Europe, *viâ* Suez.

In regard to the proposed Pacific Cable, the Honorable Sir Saul Samuel, K.C.M.G., C.B., Agent-General for the Colony of New South Wales, and the Honorable Duncan Gillies, Agent-General for the Colony of Victoria, were nominated as representatives of the Australasian Colonies on the Commission to be appointed by the Imperial Government for the purpose of fully considering the subject. These Representatives, on all important points, will consult the Agents-General for the other Australasian Colonies; and it has been provided that any scheme submitted by this Commission shall be subject to the approval of the Governments of the respective Australasian Colonies.

The conditions of tender for the new contract for the Federal Mail Service have received a large amount of attention (necessarily of a confidential character), not only at the Ministerial Conference, but by means of correspondence both before and after that event. A report of the proceedings of this Conference having recently been laid before Parliament, it is not needful to make further allusion to it in this Report.

Inland Service.

The new postal routes opened during the year 1895, as shown in the annexed return, amounted to 1,086 miles, viz.:—

Postal Line	No of times per week
In the Western Country	
From Canoblas to Towac	2
Cowra to Binnie Creek	2
Cugong to Cugong Diggings	4
Freeman's Reach to Bull Ridge	3
Galston to Arcadia	3
Genanagie to Peak Hill	2
Gentleman's Halt to Lower Mangrove	2
Gulgamree to Bocoble	2
Lawnsdale to Bullock Creek	2
Megalong to Cullubumbung	2
Merindee to Twelve mile	2
Millthorpe Forest Reefs Mail Line (point on) to Lower Forest	3
Murrumbidgerie to Eulomogo	6
Myall Plains to Tenandra	1
Riverstone to The Vineyard	3
Roto Hotel to Davittsdale	1
Rouse Hill to Annangrove	2
St Mary's to The Grange	3
Shooter's Hill to Mount Werong	1
Tarana to Mountain Home	2
Toogong to Canowindra	1
Trunkey Creek to Colo Creek	3
Walmer to Bournewood	2
In the Southern Country	
From Baker's Mail Change (on Wentworth-Wilcannia line) to New House	1
Bega to Angledale	2
Bellawongarah to Kangaroo Valley (re established)	3
Bulga Creek Junction to Yarralumla	3
Bungendore to Bywong	2
Denliquin to W Watson's (Thurgoona)	1
French Park to Ferrier's	3
Fullerton to Hadley	2
Greenwich Park to Carlungie	3
Guildford to Granville	6
Gwynne to Murrulebale	2
Hulston to Mount Ida	1
Jinden to Snowball	3
Meragle to Lobb's Hole	1
Middle Adelong to Batlow	1
Moonbah to Ingebyra	1
Neimer to Koondrook	1
Old Junee to Winchendon Vale	2
Rosedale to Yaouk	1
Springdale Railway Station to Receiving Office	6
Tareena to Cal Lal	2
In the Southern Country—continued.	
From Temora to Mimosa	2
Tocumwal to Berrigan	2
Tooma to Toolong	1
Walla Walla Station to Post Office, Walla Walla	3
Woodhill to Wattamolla	3
Yarrara to Copabella	2
Young to Wombat (re-established)	3
In the Northern Country.	
From Ashford to Walker's Store	1
Barraba to W Spencer's	1
Brierfield to Bowraville	2
Brunswick to Billinudgel	6
Burrilda Station (near Millie) to Myanblar	1
Casino to Murragang	2
Cedar Party Creek to Killabakh Creek	2
Cessnock to Mount View	2
Charlestown to Warner's Bay	2
Cobbadah to Stormont	1
Coff's Harbour to Kargingi School	2
Dorrigo to Tyringham	1
Euwylong to Medowie	3
Kendall to Lorne	once or oftener daily
Lismore to Mangargool	6
Lowry (Abbott's) to Cain's	1
Marlee to Bobin	2
Millera Station to Nicholson's Creek	2
Mogil Mogil to Cambo Cambo	2
Mullumbimby Railway Station to Post Office	3
Murwillumbah to Railway Station, South Murwillumbah	3
Nelson's Plains to Mount Kenwary	6
New Angledool to Weetalibah	2
Orabah to Linton	1
Pine Vale to Kerronga	1
Taylors Arm to Burrapine	1
The Esk to McCauley's Lead	2
Tuncurry Wharf to Post Office	2
Tweed Heads to Bilambil	2
Upper Copmanhurst to Cangai	1
Upper Manilla to Crow Mountain	1
Upper Tooloom to Pretty Gully	1
Wangat to Whispering Gully	1
West Maitland to East Greta	6
Suburban	
From Bankstown to East Hills	3

The postal routes abolished, amounting to 629 miles, are shown in the following return :—

Postal Line.	No. of times per week.
Western Roads.	
Between Bullock Creek and Loobey's	2
Medcalf's Mail Change and Fifield	2
Pier Pier and Carinda	1
Rockley and Triangle Flat	3
Wellington and Bournewood	1
Southern Roads.	
Between Barratta Mail Change and Rhyola	1
Bullenbong and Ferrier's	3
Gerogery and Walla Walla Station	2
Guildford Railway Station and Post Office	6
Jindera and Walla Walla	1
Kangaroo Valley and Wattamolla	2
Little Billabong and Carabost	3
Liverpool and Bonnyrigg	4
Luddenham and Badgery's Creek	3
Nadjingomar and Croker's Mint	2
Wolumla and Mogilla	6
Northern Roads.	
Between Bald Nob and Vindin's	1
Bangalow and Brunswick	3
Burrilda Station (near Millie) and Bulyeroi Hotel.	2
Fernmount and East Raleigh	2
Lamb's Creek and Elderslie	2
Lehane's (near Narrabri) and Boolcarroll Station.	2
Merriwinebone (near Collarenebri) and Myanblar.	1
Mogil Mogil and Caidmurra Station	1
Murragang and Lawrence	2
Murwillumbah-Brunswick Line (point on) and Upper Pocket.	2
New Angledool and Bangate	2
North Pimlico and German Creek	3
Spring Vale and Nashan	2

Increased communication on existing lines was afforded as follows :—

Postal Line.	No. of times per week.	
	From	To
Western Roads.		
Between Blayney and Brown's Creek	3	6
Cobar Railway Station and Post Office.	3	6
Condobolin and Trundle	1	2
Condobolin and Vermont Hill	1	2
Kurrajong and Comleroy Road	4	6
Manildra Railway Station and Post Office.	2	4
Nevertire and Warren	6	12
Nymagee and Gilgunnia	1	2
Southern Roads.		
Between Bemboka and Mogilla	2	3
Boro and Mayfield	2	3
Dalton and Bevendale	1	2
Gundaroo and Tallagandra	2	3
Major's Creek and Krawarree	1	2
The Rock and French Park	2	3
Northern Roads.		
Between Armidale and Hillgrove	6	12
Bandon Grove and Wangat	1	2
Cessnock and Mount View	2	3
Chatsworth Island and Woodburn	4	8
Dundee and Fladbury	2	3
Glendon and Cain's	1	2
Gresford and Allynbrook	3	6
Gresford and Lostock	3	6
Guyra and Tenterden	1	2
Limeburner's Creek and Hawke's Nest.	2	3
Moonan Brook and Berry Station	1	2
Myall Vale Hotel (near Narrabri) and Boolcarroll Station.	1	2
Nowley Station (near Narrabri) and Bulyeroi Hotel.	1	2
Salt Ash and Hannah Bay	1	2
Scone and Bunnan	2	3
Upper Manilla and Crow Mountain.	1	2
West Maitland and Lamb's Creek	2	3

The communication existing on the following lines was decreased :—

Postal Line.	No. of times per week.	
	From	To
Western Road.		
Between Oberon and Jenolan Caves	6	3
Southern Roads.		
Between Bemboka and Mogilla	6	2
Bombala and Timbery Range	2	1
Broken Hill and Round Hill	6	4
Helensburgh and Darke's Forest	3	2
Murrumburrah and Wombat	6	3
The Rock and Bullenbong	3	2
Tocumwal and Deniliquin	4	2
Northern Roads.		
Between Boolcarroll Station (near Narrabri) and Nowley Station.	3	2
Bulyeroi Hotel (near Narrabri) and Merriwinebone.	3	2
Collarenebri and Mogil Mogil	3	2
Glennie's Creek and Goorangoola	3	2
Narrabri and Myall Vale Hotel	3	2
Wyee and Noraville	3	1
Suburban Road.		
Between Rookwood and Upper Bankstown	18	12

The extent of postal route traversed in the Colony up to the 31st December, 1895, was 33,693 miles, as compared with 33,064 miles traversed in 1894—

	1894.	1895.
On horseback	10,260 miles	10,675 miles.
By coach	19,331 „	19,545 „
By railway	2,581 „	2,581 „
By tramway	68 „	68 „
By steamer	824 „	824 „

The number of miles travelled in the year 1895 was 9,338,000, being an increase of 498,000 on the mileage of the previous year.

There was no extension of mail route by railway during 1895.

The number of Post Offices established was 36, viz.:—Barham, Beecroft, Berremangra, Billinudgel, Bredbo, Bullagreen, Bull Ridge, Buxton, Bywong, Cal Lal, Colo Creek, Cordeaux, Courabyra, Cowra Creek, Cuddell Siding, Dorrigo, East Greta, Gulgamree, Guy Fawkes, Kybean, Lindfield, Little Bendigo, Lower Southgate, Meranburn, Mount Drysdale, Narrow Plains, One Tree, Pitt Town Co-operative Settlement, Savernake, Southdown, Uralgurra, Vermont Hill, Walbundrie Reefs, Wood's Reef, Woy Woy, and Yarrara.

The Post Office at Wee Jasper was re-established.

The number of Post Offices discontinued was 12, viz.:—Bonnyrigg, Forest Road, Iron Cove Bridge, Meranburn, Moore Creek, Mount Browne, Nangar, Nashan, The Pocket, Wanstead, Willanthry, and Yarralumla.

It was found desirable to change the designations of the following Post Offices, viz.:—Kyle to Cocumbark, Legislative Assembly to Parliament House, Meroe to Bullarah, Murundah to Morundah, Oaks to The Oaks, Stanmore Road to Enmore, and Yambla to Table Top.

In the Appendix will be found a list of the 1,470 Post Offices in the Colony on the 31st December, 1895. In addition to these, there are 3 Travelling Post Offices, which run between Sydney and the northern border of the Colony at Jennings, between Sydney and Albury on the southern border, and between Sydney and Dubbo in the west. Appendix A.

197 changes of Postmasters occurred during the year.

Receiving Offices were established at the following places:—Angledale, Annangrove, Apple-tree Flat, Arable, Backwater, Bilambil, Bindogandi Station, Bobin, Boona Tank, Boppy Mountain, Burrapine, Cangai, Central Tilba, Clare, Colinroobie, Coramba Battery, Crow Mountain, Cugong, Cullubumbung, Eulomogo, Galore Park, Gillenbine, Grass Hut, Greenwood, Gulf Creek, Gwynne, Hadley, Hannah Bay, Huon, Ingebyra, Karangi, Killabakh Creek, Kinross, Linton, Lobb's Hole, Lockwood, Looby's, Lorne, Lower Forest, Mangargool, Medowie, Mimosa, Missabotti, Moonan Flat, Mountain Home, Mount Kenwary, Mount View, Mount Wayo, Mount Werong, Murrulebale, Neimer, Pera Bore, Platina, Pleasant Valley, Quinburra, Rockton, Sawyer's Gully, Snowball, South Clifton, Spring Dale, Stanwell Park, Summervale, Tenterden, The Esk, The Vineyard, The Weir, Toolong, Towac, Turrawan, Twelve Mile, Upper Galston, Walbundrie Reefs, Walker's Hill, Wanstead, Wantiool, Warner's Bay, Whipstick, Winchendon Vale, Wyan, Wyndella, Yalbraith, Yallaroi, Yaouk, Yarralumla, and Yarrangobilly.

Receiving Offices were re-established at Bocoble, Borambil, Myall Plains, and Tallewang.

The names of the following Receiving Offices were changed, viz.:—Bindogandi Station to Cookamidgera, Bullock Creek to Tullamore, Bygalorie to Forest Vale, Chidowla to Nanangroe, Cooper's Creek to Corndale, No. 1 to Number One, and Upper Galston to Arcadia.

The Receiving Offices at the following places were converted into Post Offices, viz.:—Beecroft, Berremangra, Bredbo, Bullagreen, Buxton, Bywong, Cordeaux, Cowra Creek, Dorrigo, Gulgamree, Guy Fawkes, Kybean, Lower Southgate, Meranburn Railway Platform (under the name of Meranburn), Mount Billagoe (under the name of Mount Drysdale), One Tree, Pitt Town Co-operative Settlement, Savernake, Upper Tumberumba (under the name of Courabyra), Uralgurra, Walbundrie Reefs, Walker's Hill (under the name of Vermont Hill), Wood's Reef, Woy Woy, and Yarrara.

The

The Receiving Offices at the following places were discontinued, viz.:—Bonnie Doon, Buckenbour Creek, Croker's Mint, Jinden, Mount Sherwood, Orabah, Rhyola, South Codrington, Toolong, Tuggranong, Upper Pocket, and Upper Quinburra.

Appendix B. In the Appendix will be found a list of the Receiving Offices in existence at the close of the year, 502 in number.

Appendix A. Appendix A contains a return of the Government Buildings for the transaction of the Postal, Money Order, Savings Bank, and Telegraph business, and particulars of the premises rented or otherwise provided for the purpose. Government Buildings at the following places were completed and occupied during the year 1895, viz.:—Adamstown, Albion Park, Bateman's Bay, Brushgrove, Enmore, Millthorpe, Rozelle, and South Woodburn.

During the year 1895, 6 pillar letter-receivers were removed to different sites, and 1 was withdrawn; 42 small iron letter-receivers were placed, 6 were removed to new sites, and 2 were withdrawn. One galvanised iron and 3 wooden newspaper-receivers were erected.

On the 31st December the number of letter-receivers erected in the Colony (both large and small) was 1,192, and the number of newspaper-receivers, 25.

The number of licenses for the sale of postage-stamps issued in 1895 to persons other than postmasters or receiving-office-keepers was 125, the number transferred 46, and the number cancelled, 31.

On the 31st December, 1895, the number of locked private letter-boxes let at the General Post Office was 1,249, besides 76 allotted to Public Departments, for which no fees are paid.

The system is now in operation at the following offices, viz.:—Adelong, Albury, Armidale, Ashfield, Ballina, Balmain, Balranald, Bathurst, Bega, Bingara, Bombala, Bourke, Bowral, Braidwood, Broken Hill, Burwood, Casino, Cobar, Condobolin, Cooma, Coonamble, Cootamundra, Coraki, Cowra, Deniliquin, Dubbo, East Maitland, Emmaville, Forbes, George-street North, Glen Innes, Goulburn, Grafton, Granville, Grenfell, Gulgong, Gunnedah, Hay, Haymarket, Hillgrove, Hillston, Inverell, Jerilderie, Junee, Kempsey, Kiama, King-street, Lismore, Maclean, Manly, Marrickville, Moree, Moruya, Moss Vale, Mount Victoria, Mudgee, Murwillumbah, Muswellbrook, Narrabri, Narrandera, Newcastle, Newtown, North Sydney, Nymagee, Orange, Pambula, Park-street, Parramatta, Queanbeyan, Rozelle, Silverton, Singleton, Tamworth, Taree, Temora, Tenterfield, Uralla, Urana, Wagga Wagga, Walgett, Wentworth, West Maitland, Wilcannia, Wollongong, West Wyalong, Wyalong, and Young.

Six private posting-boxes have been constructed on private premises for the use and at the expense of the occupants, under the system introduced in August, 1886. The fee charged for the clearance of these boxes varies from £3 to £5 per annum, according to the daily number of clearances effected.

Five additional letter-carriers were appointed during 1895. The total number of these officials employed on the 31st December was 468, of whom 99 were attached to the Head Office, the remainder being distributed throughout the Colony, as indi-

Appendix A. cated in the Appendix.

The number of persons employed in connection with the Postal and Electric Telegraph Department for the year 1895 was as follows:—1 Postmaster-General, 1 Deputy Postmaster-General, 1 Secretary of the Postal Service, 1 Secretary of the Telegraph Service, 1 Chief Accountant and Controller, Money Order Office and Government Savings Bank.

Ministerial Division.—1 chief inspector, 8 inspectors, 3 senior clerks, 1 Inspector for irregularity and missing and dead-letter branch, 44 clerks, 1 clerk in charge of stores, 3 extra clerks, 7 temporary clerks, 1 relieving officer, 10 indoor messengers, 1 assistant storekeeper, 6 assistants in store, 1 storeman, 1 mechanic, 1 carpenter, 1 caretaker, 1 assistant caretaker, 1 office keeper, 1 tower attendant, 1 detective, 4 constables, 5 cleaners, 15 female servants, 1 manager of stables, 1 farrier, 1 striker and assistant, 8 grooms, 1 foreman of mail-cart drivers, 12 mail-cart drivers, 3 lift attendants.

Money Order and Government Savings Bank Division.—1 chief clerk, 1 examiner, 1 clerk in charge of money order room, 1 teller, 50 clerks, 25 temporary clerks, 5 indoor messengers.

Account and Cash Division.—1 accountant, 1 distributer of stamps, 1 cashier, 1 senior clerk, 21 clerks, 2 temporary clerks.

Mail

Mail Division.—1 superintendent, 1 assistant superintendent, 4 senior clerks, 46 clerks, 1 manager of parcel post, 1 shipping clerk, 1 shipping clerk's assistant, 7 temporary clerks, 1 Chinese interpreter, 17 mail guards, 61 letter-sorters, 8 junior letter-sorters, 5 temporary letter-sorters, 1 overseer of sorters, 60 stampers and sorters, 5 junior stampers and sorters, 7 temporary stampers and sorters, 5 sorters, 1 letter-carriers' overseer, 79 letter-carriers, 17 junior letter-carriers, 3 temporary letter-carriers, 61 mail-boys, 17 assistants, parcel post branch, 2 custodians of mails, 1 custodian of mail-bags, 1 assistant in bag-room, 2 bag turners, 1 repairer of mail-bags, 1 letter-carriers' timekeeper, 1 porter and cleaner, parcel post branch.

Telegraph Division.—1 station manager, 2 assistant station managers, 1 clerk in charge of check branch, 1 electrician, 1 assistant electrician, 1 receiving clerk, 41 clerks, 1 type-writer, 22 temporary clerks, 2 cadets, electrician's branch, 1 assistant in store, 2 senior operators, 192 operators, 17 junior operators, 4 temporary operators, 1 messengers' overseer, 3 temporary messengers' overseers, 11 monitors, despatch branch, 171 messengers, 4 cadets, 1 assistant mechanician, 4 instrument fitters, 1 temporary assistant (mechanical branch), 1 probationer (mechanical branch), 1 inspector of lines (city and suburbs), 1 assistant line repairer, 8 batterymen.

Telephone Branch.—1 manager, 1 mechanician, 20 fitters, 1 exchange foreman, 1 line foreman, 6 monitors, 52 switch attendants, 1 junior assistant, 1 messenger.

Electric Light Branch.—1 chief engineer, 4 engineers, 9 assistant engineers, 3 assistants.

Branch, Suburban, and Country Offices.—1,470 postmasters (424 official, 1,046 non-official), 8 telegraph station masters, 117 postal assistants, 112 junior postal assistants, 104 temporary postal assistants, 291 operators, 75 junior operators, 26 temporary station masters and telephone operators, 18 mail-guards, 2 stampers and sorters, 182 letter-carriers, 177 junior letter-carriers, 10 temporary letter-carriers, 49 mail-boys, 375 telegraph messengers, 10 cadets, 43 switch attendants, 2 telephone fitters, 3 batterymen, 46 line-repairers, 6 temporary construction overseers, 69 labourers, 502 receiving office keepers.

Total, Head Office	1,277
„ Branch, Suburban, and Country Offices ...	3,697
„ Number of Mail Contractors	809
„ „ Porters	89
Total number of persons employed	5,872

These may be subdivided into—

Persons whose whole time is occupied in the service;	Principal officers	42	
	Clerks	271	
	Post and telegraph masters	432	
	Assistants at Post Offices	308	
	Operators	581	
	Subordinate officials	1,741	
and			3,375
Persons whose time is only partially employed in the service.	Sub or non-official postmasters and Receiving Office-keepers	1,548	
	Assistants to non-official postmasters and other subordinate officials	51	
	Mail contractors and mail porters	898	
			2,497
Total			5,872

Twenty-one deaths occurred, viz.:—J. J. Mooney, clerk, Money Order and Government Savings Bank Division; R. E. Done, post and telegraph master, Macksville; W. T. Long, post and telegraph master, Albion Park; M. H. Lynch, post and telegraph master, Walgett; W. T. Taylor, assistant, Burwood; F. J. Morath, operator, Bourke; J. J. M'Grath, operator, Coonabarabran; F. W. Gamble, junior operator; P. W. Quin, junior assistant, Cobar; S. Porter, letter-sorter; T. Breen and E. Ireland, stampers and sorters; E. F. M'Encroe, assistant, Parcel Post Branch; J. W. Little, letter-carrier; G. R. Moss, junior letter-carrier; V. Watters, mail-boy, Manly; J. Lawson, F. A. Morrison, J. W. Mellor, and J. J. Telfer, telegraph messengers; and W. W. Gallie, engineer, Electric Light Branch.

Forty-

Forty-six resignations took place, and the services of six officials no longer required were dispensed with.

Eleven officers retired from the service, viz. :—R. H. Hipsley, assistant manager, Telegraphs; G. A. Kopsch, chief mechanician; F. Mackel, post and telegraph master, Park-street; P. Mackel, post and telegraph master, Wollongong; J. Kirwan, post and telegraph master, Cooma; R. A. Thomson, post and telegraph master, Taralga; and J. Skehan, letter-carrier, Newtown, who were allowed pensions under the Civil Service Act; R. Morrison, assistant, Albury, and G. A. Wright, clerk, Money Order and Government Savings Bank Division, who were allowed gratuities under the same Act; and J. Reynolds, extra clerk, and P. Plesner, messenger, who, not being contributors to the Superannuation Account, were granted gratuities from the Consolidated Revenue.

The removals from the service numbered twenty. Seven of these—a temporary clerk, three junior letter-carriers, a mail-boy, and two telegraph messengers—received sentences of imprisonment for terms varying from six to eighteen months for stealing letters. Four others—a post and telegraph master, an assistant, and two operators—received sentences of imprisonment for two years, twelve months, three years and seven months, and six months, respectively, for embezzlement. The remainder were dismissed for the following offences :—A post and telegraph master for absconding; a temporary clerk and a junior letter-carrier for drunkenness; two telegraph messengers for absence without leave; a junior letter-carrier for secreting and detaining letters; a letter-carrier for failing to satisfactorily account for three letters which should have passed through his hands; and a junior letter-carrier and a telegraph messenger for unsatisfactory conduct.

The Postal Inspectors in 1895 travelled a distance of 51,324 miles, and inspected the postal route appertaining thereto, visiting 780 offices, 243 of which were visited more than once during the year.

From the 1st January, 1895, Preston's and Ingleburn, in the neighbourhood of Liverpool, were included amongst the places in the Metropolitan district, between which letters are transmissible at the 1d. per ½ oz. rate of postage.

In October the town rate of postage (1d. per ½ oz.) was extended to letters circulating within a radius of 13 miles of Muswellbrook.

Under the Land and Income Tax Assessment Act, passed during the last session of Parliament, the Post Office is required to carry and register free of charge all returns required to be furnished under that Act. This means a further addition to those services the postal department already performs for the community that do not show any income against the increased expenditure involved.

In October the rule prohibiting the enclosure of articles in newspapers was relaxed, so as to allow of paper patterns referred to or described in a newspaper, passing through the post under cover, with such newspaper, provided Packet rate of Postage applicable to the enclosure be paid, and that it bear an endorsement stating that "the special sanction of the Postmaster-General has been duly obtained."

Arrangements have been made for the transmission by post of catalogues, reports of societies, and other such matter, if printed and published in book form, and containing no writing whatever, to and from places within New South Wales, and between this, and the other Australasian Colonies, at "Book" rate of postage, namely 1d. per 4 oz., or fraction thereof, with a minimum charge of ½d. for the first 2 oz., in the case of packets for delivery within the Colony.

Foreign Service.

In my report for 1894 it was mentioned that arrangements had been made for the extension for twelve months, from the 31st January, 1895, of the two contracts respectively with the Peninsular and Oriental, and Orient Steam Navigation Companies, for the Federal Mail Service to Europe, *via* Suez, and that correspondence has since taken place between the Imperial authorities and the Australasian Governments, on the subject of a further extension of the contracts to the 31st January, 1898, subject to certain concessions on the part of the companies.

This further extension was subsequently agreed to, the companies undertaking that their vessels should, after the 31st January, 1896, call at Colombo on every outward and homeward voyage, thus securing a regular weekly connection between

Australia

Australia and India, the Straits Settlements, and China. The companies also agreed to relinquish the special payment of twopence a pound, which they had previously received, for the conveyance of parcels to and from Australia.

The arrangement made with the New Zealand Government in 1892 for the conveyance of mails, once every four weeks, to and from Sydney and San Francisco, *via* Auckland, by contract packets of the Union Steamship Company of New Zealand, for the sum of £4,000 per annum, has been renewed for a further period, expiring in November, 1896.

The agreement with Mr. James Huddart for a monthly steam service between Sydney and Vancouver, in the Colony of British Columbia, which expired on the 25th May, 1896, has been renewed for a further period of three years from that date. The subsidy payable is at the rate of £10,000 per annum, and it is provided that the duration of the voyage each way shall not exceed twenty-one days, including one day's detention at Honolulu, and that for every complete period of twenty-four hours, by which the time actually occupied in the conveyance of the mails shall exeeed that limit, the sum of £30 may be deducted from the subsidy payable to the Contractor.

The text of the new agreement will be found in the Appendix. Appendix C.

In August, 1890, a convention was entered into between the British and French Governments respecting postal communications. After some correspondence between this Colony and the Imperial Authorities on the subject of New South Wales adhering to the convention, (a copy of which, together with the correspondence, was presented to Parliament on the 21st March, 1895) the adhesion of the Colony, subject to certain exceptions and modifications, was notified to the Imperial Government in July, 1894.

The Mail Service performed by the Peninsular and Oriental Steam Navigation Company during the year 1895 was as follows :—

Received.

Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.	Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.
	1894.	1895.			1895.	1895.	
Ballaarat	30 November	7 January	38	Valetta	31 May	6 July	36
Arcadia	14 December	15 „	32	Himalaya	14 June	17 „	33
Valetta	28 „	4 February	38	Oceana	28 „	31 „	33
	1895.			Parramatta	12 July	16 August	35
Rome	11 January	14 „	34	Australia	26 „	3 September	39
Parramatta	25 „	1 March	35	Massilia	9 August	12 „	34
Oceana	8 February	13 „	33	Arcadia	23 „	25 „	33
Australia	22 „	27 „	33	Ballaarat	6 September	11 October	35
Massilia	8 March	12 April	35	Rome	20 „	22 „	32
Victoria	22 „	24 „	33	Valetta	4 October	9 November	36
Ballaarat	5 April	11 May	36	Himalaya	18 „	19 „	32
Arcadia	19 „	22 „	33	Oceana	1 November	4 December	33
Britannia	3 May	5 June	33	Parramatta	15 „	21 „	36
Rome	17 „	20 „	34	Australia	29 „	31 „	32

Despatched.

Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.
	1895.	1895.			1895.	1895.	
Himalaya	14 January	16 February	33	Valetta	29 July	4 September	37
Ballaarat	28 „	4 March	35	Himalaya	12 August	14 „	33
Arcadia	11 February	17 „	34	Oceana	26 „	28 „	33
Valetta	25 „	1 April	35	Parramatta	9 September	14 October	35
Rome	11 March	14 „	34	Australia	23 „	26 „	33
Parramatta	25 „	28 „	34	Massilia	7 October	11 November	35
Oceana	8 April	12 May	34	Arcadia	21 „	23 „	33
Australia	22 „	25 „	33	Ballaarat	4 November	8 December	34
Massilia	6 May	9 June	34	Rome	18 „	22 „	34
Victoria	20 „	23 „	34			1896.	
Ballaarat	3 June	9 July	36	Valetta	2 December	6 January	35
Arcadia	17 „	21 „	34	Himalaya	16 „	18 „	33
Britannia	1 July	4 August	34	Oceana	30 „	2 February	34
Rome	15 „	19 „	35				

Average time occupied in the conveyance of mails to and from Sydney and London :—
London to Sydney ..... $34\frac{3}{27}$ days.
Sydney to London ..... $34\frac{2}{13}$ „

The

The following are the returns of the Mail Services performed by the Orient Steam Navigation Company during the year 1895 :—

Received.

Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.	Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.
	1894.	1895.			1895.	1895.	
Orotava	7 December.	10 January	34	Lusitania	7 June	15 July	38
Oruba	21 „ ...	24 „	34	Orizaba.....	21 „	26 „	35
	1895.			Orient	5 July	9 August.....	35
Cuzco	4 January ...	8 February ...	35	Liguria.....	19 „	22 „	34
Austral:.....	18 „ ...	21 „ ...	34	Ormuz	2 August.....	5 September..	34
Ophir	1 February..	7 March	34	Orotava	16 „ ...	19 „ ...	34
Orizaba.....	15 „ ...	21 „	34	Oruba	30 „ ...	3 October.....	34
Oroya	* 1 March.....	12 April.....		Cuzco	13 September	18 „	35
Orient.....	15 „	17 „	33	Austral.....	27 „ ...	31 „	34
Ormuz.....	29 „	2 May	34	Ophir	11 October ...	14 November...	34
Orotava	12 April	16 „	34	Orizaba.....	25 „ ...	29 „ ...	35
Oruba	26 „	29 „	33	Oroya	8 November.	12 December...	34
Cuzco	10 May	13 June.....	34	Orient	22 „	27 „ ...	35
Ophir	24 „	27 „	34				

*The "Oroya" stranded in leaving Naples. Mails transferred to the "Massilia" sailing from Brindisi, 10th March, 1895.

Despatched.

Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.
	1895.	1895.			1895.	1895.	
Orient	7 January ...	11 February ...	35	Ophir	22 July.....	25 August.....	34
Ormuz	21 „ ...	23 „ ...	33	Lusitania	5 August	11 September..	37
Orotava	4 February..	9 March	33	Orizaba.....	19 „ ...	24 „	36
Oruba	18 „ ...	23 „	33	Orient	2 September	8 October ...	36
Cuzco	4 March ...	8 April	35	Liguria.....	16 „ ...	20 „	34
Austral	18 „ ...	21 „	34	Ormuz	30 „ ...	2 November ..	33
Ophir	1 April	4 May	33	Orotava	14 October ...	16 „	33
Orizaba	15 „	18 „	33	Oruba	28 „ ...	30 „	33
Orient	29 „	3 June.....	35	Cuzco	11 November	16 December ..	35
Liguria	13 May	16 „	34	Austral.....	25 „ ...	30 „	35
Ormuz	27 „	1 July	35			1896.	
Orotava	10 June	15 „	35	Ophir	9 December.	12 January.....	34
Oruba	24 „	29 „	35	Orizaba.....	23 „ ...	26 „	34
Cuzco	8 July.....	14 August.....	37				

Average time occupied in the conveyance of mails to and from Sydney and London, exclusive of those transferred from the "Oroya," which occupied 42 days in delivery :—

London to Sydney ... ... $34\frac{8}{25}$ days.
Sydney to London ... ... $34\frac{5}{13}$ „

The following returns show the dates of arrival and departure at and from Sydney and London of the mails per Union Steamship Company's steamers, *via* San Francisco, during the year 1895 :—

Received.

Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.	Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.
	1894.	1895.			1895.	1895.	
Mariposa	1 December...	7 January ...	37	Mariposa	18 May	24 June.....	37
Arawa	29 „ ...	6 February...	39	Monowai	15 June.....	21 July	36
	1895.			Alameda	13 July	19 August.....	37
Alameda	26 January ...	5 March	38	Mariposa	10 August.....	16 September..	37
Mariposa	23 February ...	3 April	39	Monowai	7 September .	15 October ...	38
Arawa	23 March	30 „ ...	38	Alameda	5 October ...	11 November ..	37
Alameda	20 April	27 May...	37	Mariposa	2 November ..	9 December ..	37

Despatched.

Name of Steamer.	Date of departure of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer.	Date of departure of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.
	1895.	1895.			1895.	1895.	
Mariposa	21 January.....	1 March	39	Monowai	5 August.....	11 September..	37
Arawa	18 February...	29 „	39	Alameda	2 September..	9 October ...	37
Alameda.....	18 March	25 April	38	Mariposa	30 „ ...	6 November ..	37
Mariposa	15 April	24 May	39	Monowai	28 October ...	6 December...	39
Monowai	13 May	22 June.....	40			1896.	
Alameda.....	10 June.....	18 July	38	Alameda	25 November...	1 January ...	37
Mariposa	8 July	14 August.....	37	Mariposa	23 December...	30 „ ...	38

Average time occupied in the conveyance of mails to and from Sydney and London, *via* San Francisco :—

London to Sydney... ... ... $37\frac{6}{13}$ days.
Sydney to London... ... ... $38\frac{1}{13}$ „

The following are the returns of the Mail Service performed by the Canadian-Australian Steamship Line, *via* Vancouver, during the year 1895 :—

Received.

Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.	Name of Steamer.	Date of departure of Mails from England.	Date of arrival of Mails at Sydney.
	1894.	1895.		1894.	1895.
Warrimoo ...	Mails are not despatched from London for conveyance by Vancouver Service.	8 January.	Warrimoo ...	Mails are not despatched from London for conveyance by Vancouver Service.	11 July.
Miowera		11 February.	Miowera		11 August.
Warrimoo ...		11 March.	Warrimoo ...		15 September.
Miowera		8 April.	Miowera		17 October.
Warrimoo ...		9 May.	Warrimoo ...		10 December.
Miowera	....	15 June.			

Owing to the "Warrimoo" going ashore near Cape Flattery, on the 8th August, and being detained at Sydney for repairs, there was no boat available for the October trip from Canada.

Despatched.

Name of Steamer.	Date of departure of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer.	Date of departure of Mails from Sydney.	Date of arrival of Mails in England.	No. of days occupied in transit of Mails between Sydney and London.
	1895.	1895.			1895.	1895.	
Warrimoo ...	18 January ...	28 February...	41	Warrimoo ...	18 July	28 August.....	41
Miowera	18 February...	31 March	41	Miowera	20 August.....	28 September..	39
Warrimoo ...	18 March	27 April	40	Warrimoo ...	21 October ...	27 November...	37
Miowera	18 April	29 May	41	Miowera	18 November...	28 December...	40
Warrimoo ...	18 May	25 June.....	38			1896.	
Miowera	20 June	29 July	39	Warrimoo ...	18 December...	27 January ...	40

Average time occupied in the conveyance of mails :—

Sydney to London ... ... $39\frac{8}{11}$ days.

The subsidy paid for the year 1895 to the Peninsular and Oriental and Orient Steam Navigation Companies for the Federal Ocean Mail Service] *via* Suez was £170,000. The contribution of the United Kingdom was £95,000.

The

The amount paid by each contributing colony, on the basis of population, was as follows, viz. :—

New South Wales	£27,062	16	8
Victoria	25,537	10	0
Queensland	9,621	5	0
South Australia	7,625	5	0
Tasmania	3,406	6	8
Western Australia	1,746	16	8
Total...	£75,000	0	0

The following return shows the number of letters, packets, and newspapers despatched and received by the various ocean mail routes during the year 1895, as compared with similar information for the year 1894:—

Year	Route.	Despatched.						Received.				
		Intercolonial.			Foreign.			Intercolonial.			Foreign.	
		Letters.	Packets.	Newspapers.	Letters.	Packets.	Newspapers.	Letters.	Packets.	Newspapers.	Letters.	Packets and Newspapers.
1894	Per Peninsular and Oriental S. N. Co.'s packets, *via* Brindisi	60,961	36,418	131,702	427,050	82,633	270,448	40,041	2,493	21,865	627,778	601,421
1895		72,710	38,936	133,985	423,805	81,676	269,729	49,278	9,459	26,076	664,110	613,786
1894	Per Orient Steam Navigation Co.'s packets, *via* Naples	51,279	40,187	134,421	411,162	76,171	267,380	42,840	4,401	22,972	615,083	574,660
1895		65,382	22,180	115,374	412,449	79,654	264,809	53,572	9,541	29,965	615,775	579,462
1894	Per Union Steamship Co.'s packets, *via* San Francisco	21,542	112,837	38,696	60,399	10,939	48,248	9,397	908	5,861	89,043	124,457
1895		25,235	78,326	44,704	60,612	11,248	49,291	18,540	2,598	11,516	97,568	107,269
1894	Per Queensland Royal Mail Co.'s packets, *via* Torres Straits	....	....	....	2,615	479	3,803	....	....	....	262	117
1895		....	....	....	2,501	376	3,175	....	....	....	74	25
1894	Per Compagnie des Messageries Maritimes' packets, *via* Marseilles	144	1	....	9,541	1,227	7,906	....	....	....	7,560	6,769
1895		184	3	4	7,626	1,151	3,202	608	46	202	8,993	6,578
1894	Per Nord-Deutscher Lloyd's packets, *via* Brindisi	223	3	3	330	16	1	....	....	....	12,056	7,346
1895		193	1	1	364	16	1	....	....	....	11,248	7,389
1894	Per Canadian-Australian packets, *via* Vancouver	....	....	....	40,134	8,055	41,454	....	....	....	37,944	62,479
1895		....	....	....	32,159	7,540	30,770	....	....	....	35,206	75,051

The following statements for the year 1895 show the approximate net cost to the Colony of the Suez, San Francisco, and Vancouver Mail Services.

Statement showing the approximate net cost to New South Wales, for the year 1895, of the mail service, *via* Suez, per the vessels of the Orient and the Peninsular and Oriental Steam Navigation Companies:—

Dr.	£	s.	d.	£	s.	d.
To New South Wales proportion of Colonial share of subsidy for carriage of mails	27,062	16	8			
Transit of mail-matter through European Countries, &c.	3,642	17	0			
Overland transit of mail-matter through Australian Colonies; cost of special train, and advising arrival of mails in London, &c.	1,602	12	6			
				32,308	6	2
Cr.						
By Estimated share of contributions from non-contracting Colonies, &c.	1,070	0	0			
Estimated share of transit rates on mail-matter from European Countries, &c.	575	0	0			
Estimated postages collected in the Colony	18,225	0	0			
				19,870	0	0
Estimated net cost to the Colony				£12,438	6	2
The estimated net cost for 1894 was				£12,877	3	6

Statement

Statement showing the approximate net cost to New South Wales, for the year 1895, of the San Francisco Mail Service, per vessels of the Union Steamship Company of New Zealand (Limited) :—

Dr.	£	s.	d.	£	s.	d.
To Payment to New Zealand for carriage of mails ...	4,000	0	0			
Cost of land and sea transit of mail-matter for places beyond the United States of America, and of advising arrival of mails in London	22	18	9			
				4,022	18	9
Cr.						
By Estimated postages collected in the Colony				1,900	0	0
Estimated net cost to the Colony				£2,122	18	9
The estimated net cost for 1894 was				£1,891	14	10

Statement showing the approximate net cost to New South Wales, for the year 1895, of the Vancouver Mail Service, per vessels of Mr. James Huddart :—

Dr.	£	s.	d.	£	s.	d.
To Payment to Mr. James Huddart for the carriage of mails (including deductions refunded)	10,000	0	0			
Cost of land and sea transit of mail-matter to places beyond Canada...	85	12	11			
				10,085	12	11
Cr.						
By Contributions from non-contracting Colonies, &c. ...	425	0	0			
Estimated postages collected in the Colony	620	0	0			
				1,045	0	0
Estimated net cost to the Colony				£9,040	12	11
The estimated net cost for 1894 was				£7,845	12	0

Parcel Post.

A direct exchange of postal parcels has been established between this Colony and Canada, at the rate of one shilling per lb., the terms and conditions as to size and weight being similar to those applicable to the parcel post with the United Kingdom. The parcel post has also been extended to Fiji and the Colony of Straits Settlements, the rate in the former case being the same as on intercolonial parcels, viz.—8d. for the first lb., and 6d. for each additional lb.; and in the latter 1s. per lb.; likewise to the French possessions of St. Pierre and Miquelon, *viâ* the United Kingdom and Canada.

Parcels may now be forwarded through the medium of the Egyptian Post Office to Cyprus, East Coast of Africa (German possessions), Greece, Eritrea (Italian Colony), Montenegro, Seychelles, and Turkey.

The limit of weight of parcels forwarded *viâ* the United Kingdom to France, Italy, Germany, Denmark, Austria-Hungary, Switzerland, Turkey, and certain other countries, has been increased from 7 to 11 lb.

Revised rates of postage have been introduced in connection with parcels forwarded *viâ* the United Kingdom to Austria-Hungary, Bosnia, Bulgaria, Chili, Cameroons, Denmark, Germany, German East Africa, Italy, Montenegro, Morocco, Philippoplis, Roumania, Servia, Switzerland, Togo, and Uruguay.

Copies of the Parcel Post Agreement concluded in March, 1895, with the Colony of Straits Settlements, and of an amended agreement in respect of certain provisions of the Parcel Post Arrangement with India will be found in the Appendix. Appendix D. Appendix E.

Letters, Letter Cards, Post Cards, Packets, Newspapers, and Parcels posted and received in the Colony during 1895 as compared with 1894.

Posted.

Service.	Year.	ARTICLES SUBJECT TO POSTAGE.								ARTICLES EXEMPT FROM POSTAGE.*				PARCELS.				TOTAL ARTICLES.
		Letters.		Letter Cards.	Post Cards.		Packets.		Newspapers.	Letters.	Packets.	Registered Articles.	Newspapers.	Number.	Weight.	Postage.	Declared Value.	
		Ordinary.	Registered.		Single.	With reply paid.	Ordinary.	Registered.							lb.	£ s. d.	£ s. d.	
Inland	1894	56,285,000	582,819	133,000	877,500	10,000	7,852,900	57,603	1,488,800	...	...	...	30,674,700	315,243	977,302	16,527 0 7	.....	98,277,565
	1895	55,528,900	575,822	297,100	815,500	9,500	6,097,690	55,281	1,519,270	...	...	...	34,147,840	362,442	1,264,071	20,035 14 11	.....	100,309,345
Intercolonial	1894	4,386,500	166,173	9,400	66,000	900	4,525,200	10,823	5,303,200	...	...	...	.....	18,020	48,697	1,505 18 2	28,451 6 9	14,486,216
	1895	4,808,780	215,183	22,900	73,950	1,050	2,950,390	8,638	4,914,970	...	...	...	.....	20,873	66,790	1,905 18 10	27,114 13 0	13,016,734
International	1894	998,400	27,673	.....	8,600	400	309,800	3,898	675,500	...	...	...	.....	6,273	16,588	756 2 6	17,191 16 9	2,030,544
	1895	1,068,900	27,647	.....	5,700	300	302,538	4,838	613,584	...	...	...	.....	6,098	17,722	824 18 0	19,083 10 8	2,029,605
Totals	1894	61,669,900	776,665	142,400	952,100	11,300	12,687,900	72,324	7,467,500	...	...	...	30,674,700	339,536	1,042,387	18,789 1 3	45,643 3 6	114,794,325
	1895	61,406,580	818,652	320,000	895,150	10,850	10,250,618	68,757	7,047,824	...	...	...	34,147,840	389,413	1,348,583	22,766 11 9	46,198 3 8	115,355,684

Received.

Intercolonial	1894	4,024,600	44,428	11,300	41,400	1,800	514,700	3,071	2,400,200	...	...	...	.....	15,955	40,325	1,016 6 1	15,966 17 3	7,058,054
	1895	4,404,750	58,305	17,290	38,930	1,770	540,486	5,054	2,661,054	...	...	...	.....	18,848	49,290	1,525 7 2	15,839 13 2	7,747,387
International	1894	1,442,700	35,035	.....	9,300	400	280,500	5,513	1,124,900	...	...	...	.....	12,399	42,074	1,923 4 4	38,041 15 7	2,910,747
	1895	1,365,240	25,491	.....	10,240	470	386,238	8,036	1,045,240	...	...	...	.....	14,516	51,216	2,253 13 7	40,755 15 11	2,855,501
Totals	1894	5,467,300	79,463	11,300	50,700	2,200	795,200	9,184	3,525,100	...	...	...	.....	28,354	82,399	2,939 10 5	54,008 12 10	9,968,801
	1895	5,769,990	83,796	17,290	49,170	2,240	926,724	13,120	3,707,194	...	...	...	.....	33,364	100,506	3,779 0 9	56,595 9 1	10,602,888

* The number of articles exempt from postage other than newspapers being comparatively small, a separate account has not been kept of them, and they are, therefore, included under the head of articles subject to postage.

NOTE.—With the exception of Registered Articles and Parcels (in regard to which the actual figures are given) the above figures are calculated on the basis of returns furnished by Postmasters during two months of the year, and therefore can only be accepted as approximate.

Dead Letter Branch.

The following return shows the number of Letters, Post Cards, and Packets dealt with in this Branch, either by the return to writers, discovery of persons addressed, or otherwise, during the year 1895 :—

	Letters.	Post Cards.	Packets.
Inland.			
Returned to writers, delivered, &c.	169,602	978	34 361
Destroyed in accordance with Section 32 of 31 Vic. No. 4	36,735	120	1,904
Intercolonial.			
Originally addressed to other Colonies :—			
Returned to writers, or otherwise disposed of	27,997	231	27,411
Destroyed in accordance with Section 32 of 31 Vic. No. 4	17,547	75	4,784
Returned to other Colonies as unclaimed	20,065	576	3,773
Foreign.			
Originally addressed to other Countries :—			
Returned to writers, or otherwise disposed of	6,256	16	5,641
Destroyed in accordance with Section 32 of 31 Vic. No. 4	1,866	4	2,112
Returned to other Countries as unclaimed	9,485	195	2,480
Total number dealt with	289,553	2,195	82,466

Included in the above return were 5,225 registered letters which originated in New South Wales, and which, upon being opened to obtain address prior to return to the senders, were found to contain, besides correspondence and valuable enclosures, such as gold and silver watches, gold rings, brooches, earrings, &c., the sum of £2,385 18s. 10d. in coin, notes, cheques, &c. In 1,070 unregistered letters were found valuable enclosures, representing £2,385 6s. 4d.

530 registered letters originated in places beyond the Colony, and were returned unopened, as follows :—152 to London, 197 to other countries, and 181 to other Colonies.

An average of 91 insufficiently-addressed letters and packets were forwarded daily to the Dead Letter Office for treatment; the addresses of a large proportion were corrected and the letters forwarded. The remainder were returned to the writers, or otherwise dealt with, as required by the Postage Acts.

Of 352 articles containing clothing, merchandise, jewellery, &c., received with the addresses torn off, postage refused, &c., 50 only were applied for and delivered. The articles not otherwise disposed of are sold in accordance with legislation, and the proceeds paid into the Consolidated Revenue.

1,010 Chinese letters imperfectly addressed were forwarded to the intended addresses through the assistance of the Chinese interpreter.

162 letters were posted without addresses, 117 of which (including 26 containing valuable enclosures) were returned to the writers, the remainder bearing no indication of the sender. As an illustration of the carelessness exhibited at times on the part of the public it may be mentioned that four of these unaddressed letters were consigned to pillar-boxes in registered envelopes, and were found to contain £36 15s. 8d. in notes and postage stamps. In each case, fortunately, no difficulty was experienced in returning the letter to the sender.

It is estimated that 136,205 unclaimed newspapers found their way to this Branch during the year. These were disposed of in accordance with the regulations.

About ·402 per cent. of the total number of letters posted in the Colony during 1895 were unclaimed.

Delivery by Letter-carriers.

The number of letters, &c., delivered by the Letter-carriers attached to the head office during the years 1894 and 1895 was as follows :—

	1894.	1895.
Unregistered letters	8,535,589	8,783,948
Registered letters	79,723	77,349
Books, &c.	160,316	166,212
Newspapers	1,458,194	1,482,604

Registration Branch.

The number of Registered Letters which passed through the General Post Office in 1895 was 683,898, against 637,674 in 1894, the increase in number being 46,224.

Mails Received and Despatched.

The following return shows the number of Mails received at and despatched from the General Post Office during the years 1894 and 1895.

Year.	Received.		Despatched.		Total number of Mails which passed through the office.
	Inland.	Foreign.	Inland.	Foreign.	
1894	226,475	26,032	214,375	11,301	478,183
1895	229,759	26,221	216 952	10,930	483,862
Increase	3,284	189	2,577	....	5,679
Decrease	.....	.....	.....	371	.....

Record Branch.

The number of written communications received from the public during 1895, intimating changes of address, or requesting letters, &c., to be forwarded, was 26,463, against 26,862 in 1894.

The number of communications addressed to the Department relating to the extension and improvement of the service, to irregularities connected with the performance of mail contracts, and to the transmission of letters, telegrams, &c., and recorded in the year 1895, was 47,704, against 46,115 in 1894.

Postage Stamps, Stamped Envelopes, &c.

The following return shows the number, description, and value of Postage Stamps, &c., issued at the General Post Office during the years 1894 and 1895 :—

Number.		Description.	Value.		Increase in issue for 1895.		Decrease in issue for 1895.	
1894.	1895.		1894.	1895.	Number.	Value.	Number	Value.
			£ s. d.	£ s. d.		£ s. d.		£ s. d.
6,964,720	7,035,400	Halfpenny	14,509 16 8	14,657 1 8	70,680	147 5 0	.....	.....
109,732	120,926	Halfpenny impressed on envelopes received from the public.	228 12 2	251 18 7	11,194	23 6 5	.....	.....
934,897	38,512,022	Penny	166,395 8 1	160,466 15 2	.....	.....	1,422,875	5,928 12 11
152,632	160,179	Penny impressed on envelopes received from the public.	635 19 4	667 8 3	7,547	31 8 11	....	.....
28,023,680	27,236,860	Two penny	233,530 13 4	226,973 16 8	..	.....	786,820	6,556 16 8
203,839	208,990	Two-penny impressed on envelopes received from the public.	1,698 13 2	1,741 11 8	5,151	42 18 6	....	.....
845,928	842,328	Twopence halfpenny	8,811 15 0	8,774 5 0	.....	.....	3,600	37 10 0
318,300	258,200	Three penny	3,978 15 0	3,227 10 0	.....	.....	60,100	751 5 0
546,690	393,480	Four penny	9,111 10 0	6,558 0 0	.....	.....	153,210	2,553 10 0
111,766	114,588	Five-penny	2,328 9 2	2,387 5 0	2,822	58 15 10	.....	.....
1,109,560	963,540	Six penny	27,739 0 0	24,088 10 0	.....	.....	146,020	3,650 10 0
6 116	5,909	Sevenpence halfpenny	191 2 6	184 13 1½	.....	.....	207	6 9 4½
114,525	97,155	Eight penny	3,817 10 0	3,238 10 0	.....	.....	17,370	579 0 0
3,689	3,723	Nine penny	138 6 9	139 12 3	34	1 5 6	.....	.....
10,152	5,916	Ten penny	423 0 0	246 10 0	.....	.....	4,236	176 10 0
1,470,110	1,365,170	One shilling	73,505 10 0	68,258 10 0	.....	.....	104,940	5,247 0 0
3,518	4,243	Twelvepence halfpenny	183 4 7	220 19 9½	725	37 15 2½	.....	.....
9,931	9,496	Five-shilling	2,482 15 0	2,374 0 0	.....	.....	435	108 15 0
2,478	2,501	Ten-shilling	1,239 0 0	1,250 10 0	23	11 10 0	.....	.....
102	294	Sets of "postage due" stamps at 10s per set.	51 0 0	147 0 0	192	96 0 0	.....	.....
2,496	5,255	Twenty-shilling	2,496 0 0	5,255 0 0	2,759	2,759 0 0	.....	.....
16	59	Sets of specimen and reprint postage stamps at 20s per set	16 0 0	59 0 0	43	43 0 0	.....	.....
137,840	101,760	Newspaper wrappers—halfpenny	287 3 4	212 0 0	.....	.....	36,080	75 3 4
10,680	18,480	Newspaper wrappers—penny	44 10 0	77 0 0	7,800	32 10 0	.....	.....
905,520	903,600	Post-cards—one-penny	3,773 0 0	3,765 0 0	.....	.....	1,920	8 0 0
5,840	5,760	Post-cards—three halfpence	36 10 0	36 0 0	.....	.....	80	0 10 0
3,360	2,460	Reply post-cards at twopence	28 0 0	20 10 0	.....	.....	900	7 10 0
560	240	Reply post cards at threepence	7 0 0	3 0 0	.....	.....	320	4 0 0
53,680	59,920	Registered envelopes at threepence	671 0 0	749 0 0	6,240	78 0 0	.....	.....
105,750	95,500	Envelopes—one-penny	475 17 6	429 15 0	.....	.....	10,250	46 2 6
11,154	10,125	Envelopes—two penny	96 13 4	87 15 0	.....	.....	1,029	8 18 4
91,280	321,200	Letter Cards	570 10 0	2,007 10 0	229,920	1,437 0 0	.....	.....
8,180	43,120	Telegram Forms—six-penny	204 10 0	1,078 0 0	34,940	873 10 0	.....	.....
36,900	171,480	Do. one shilling	1,845 0 0	8,574 0 0	134,580	6,729 0 0	.....	.....
	136	Sets of O.S. stamps, envelopes, and cards, at £2 per set.	.....	272 0 0	136	272 0 0	.....	.....
			£561,551 14 11	£548,479 17 2	.....	£12,674 5 4½	.....	25,746 3 1½

The estimated number and value of postage stamps and postage prepayment forms sold for Postal and Telegraph purposes during 1895, were as follows :— Number, 76,199,500; value, £524,000.

The

The following return shows the number, description, and value of Postage Stamps purchased from the public for cash, less the usual discount, during the year 1895 :—

Number.	Description.	Value. £	s.	d.
5,104	Halfpenny	10	12	8
177,849	One-penny	741	0	9
179,184	Two-penny	1,493	4	0
914	Twopence-halfpenny	9	10	5
117	Three-penny	1	9	3
250	Four-penny	4	3	4
91	Five-penny	1	17	11
769	Six-penny	19	4	6
4	Sevenpence-halfpenny	0	2	6
24	Eight-penny	0	16	0
180	Nine-penny	6	15	0
4	Ten-penny	0	3	4
467	One-shilling	23	7	0
24	Twelvepence-halfpenny	1	5	0
10	Five-shilling	2	10	0
11	Ten-shilling	5	10	0
1	Twenty-shilling	1	0	0
	Total	£2,322	11	8
	Less 5 per cent.	116	2	7
		£2,206	9	1
497	spoiled but unused 1d. envelopes, value	£2	1	5
1,321	" " 2d. " "	11	0	2
2,873	" " 1d. post-cards "	11	19	5
1,134	" " 2d. " "	9	9	0
40	" " 3d. " "	0	10	0
		£35	0	0
	Less 10 per cent.	3	10	0
		£31	10	0

The use of " O.S." stamps for official correspondence was discontinued from the 1st January, 1895, when provision was made for its transmission by post unstamped, in covers bearing a special endorsement, and under conditions to prevent abuse.

The 5d. impressed stamp for envelopes was, in May, withdrawn from use.

In July an improved 1½d. post-card was introduced, the new differing from the old pattern in the manner in which the figures of value are represented in the stamp, and by the addition of the words " Penny Half-penny," in a tablet below the central circle.

Private cards of a prescribed size, bearing adhesive stamps, have been admitted to circulation within New South Wales, and between this and the other Australasian colonies, on the same conditions as are applicable to official post-cards.

The discount allowed to licensed vendors of postage stamps was, from the 1st January, 1895, reduced from 2½ to 1¼ per centum, and it was made a condition of the continuance of the licenses then existing, as well as of those subsequently granted, that the vendors should sign an agreement undertaking not to procure postage stamps for sale to the public from any other source than the General Post Office, or from a postmaster specially authorised to supply them.

Inland Mail Conveyance.

In the year 1895 the average cost per mile of the Inland Mail Conveyance was about 4⅓d., against 4¾d., the price per mile paid during the previous year.

The number of contracts in existence on the 31st December, 1895, for the conveyance of inland mails was 930, and the number of mail services in respect of which no formal contracts were executed, 279.

Money Orders.

Money Order Offices were established during the year 1895 at the following places, viz., Balmoral, Ganmain, Geurie, Harrington, Mandurama, Manildra, Mount Drysdale, Parliament House, Reefton, Ungarie, and White Cliffs.

The offices at Meranburn and Willanthry were abolished, and the name of the office at Stanmore Road was changed to Enmore.

The number of Money Order Offices in the Colony on 31st December, 1895, was 624.

The number of money orders issued was 406,235 (exclusive of 4,030 certificates of transfer used by Postmasters in connection with transmitting fees for private letter-boxes, &c., &c.), and the value £1,269,200, against 431,417 of the value of £1,315,637, the difference showing a decrease of 25,182 in the number, and £46,437 in the amount, as compared with 1894.

The number of money orders paid was 380,292, and the value £1,247,235, against 393,985 of the value of £1,257,922 in 1894, being a decrease of 13,693 in the number and £10,687 in the amount.

The amount of revenue received as commission on money orders issued was £14,863 0s. 6d., being £964 12s. 6d. less than the amount collected in 1894. This is to be accounted for by the increased use of postal notes.

Appendix F. A comparative return showing the various countries where the money orders issued in New South Wales were made payable, and also the money order issues of other countries payable in New South Wales, will be found in the Appendix.

Appendix A. In the information contained in Appendix A will be found a detailed statement of the business transacted and revenue collected at each office in the Colony.

Appendix G. A convention (the text of which is given in the Appendix), for regulating the interchange of money orders between New South Wales and the Colony of Cape of Good Hope, was brought into operation on the 1st January, 1895. The Appendix

Appendix H. also contains a copy of an amended agreement in respect of Articles 22 and 25 of the money order arrangement with India.

From the 1st January, 1895, the maximum amount of a single money order between New South Wales and Germany was increased from £10 to £20 (400 marks).

Postal Notes.

During the year 1895, 718,367 postal notes, of the value of £258,182 7s., were supplied to Postmasters for sale to the public; of these, 665,974 were issued and paid in New South Wales, having a value (with stamps affixed) of £243,188 0s. 3d.; 33,029 notes, value £13,361 3s. 7d., of other Colonies were also paid, making a grand total of 699,003, of the value of £256,549 3s. 10d., paid in New South Wales.

The number of notes issued in this Colony and paid in other Colonies was 44,735, of the value of £16,368 18s. 10d. (including postage stamps to the value of £141 3s. 4d. affixed thereto).

The amount of revenue collected as poundage was £6,316 12s. 4d., an increase of £2,438 19s. as compared with 1894. It should, however, be mentioned that the larger use of postal notes has, to a limited extent, diminished the business in money orders.

The following table contains particulars of the postal notes paid in New South Wales during the year 1895 :—

Issuing Colony.	Denomination of Notes.														Total Number.	Value of Stamps affixed.	Total value of Notes and Stamps.
	1/-	1/6	2/-	2/6	3/-	3/6	4/-	4/6	5/-	7/6	10/-	10/6	15/-	20/-			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		£ s. d.	£ s. d.
New South Wales..	52,792	23,972	1,009	57,285	65,044	..	73,737	..	131,307	38,976	108,925	..	42,235	70,692	665,974	2,711 9 9	243,188 0 3
Queensland	731	383	710	951	987	510	793	412	1,456	394	1,432	285	407	1,399	10,850	37 3 10	3,862 11 4
South Australia ..	189	117	228	345	326	187	274	203	467	192	508	269	164	436	3,908	20 14 3	1,430 12 3
Tasmania	67	51	83	68	112	63	65	50	127	42	124	42	32	204	1,135	4 10 11	441 0 5
Victoria	577	398	896	1,112	1,244	672	1,059	645	2,257	657	2,641	604	756	3,618	17,136	45 6 7	7,626 19 7
Totals	54,356	24,921	2,926	59,761	67,713	1,437	75,928	1,313	135,614	40,261	113,630	1,200	43,594	76,349	699,003	2,819 5 4	256,549 3 10

In November a postal note of the value of 2s., subject to a charge of 1d. for poundage, was introduced.

Government Savings Bank.

The following branches were opened during the year 1895, viz.:—Broke, Buckley's Crossing-place, Come-by-Chance, Exeter, Geurie, Glencoe, Grong Grong Railway Station, Harrington, Hornsby Junction, Jenolan Caves, Kendall, Manildra, Mount Drysdale, Taralga, Tarcutta, Teralba, Tomingley, Ungarie, and Wyrallah.

Two branches were closed, viz.:—Meranburn and Willanthry.

During the year 42,276 new accounts were opened and 33,368 accounts were closed. The number of accounts remaining open at the close of the year was 131,703.

The number of deposits received was 296,356, and the amount £2,194,133 15s. 10d., being an increase of 1,963 in the number and £33,523 6s. 10d. in the amount on the business of the previous year. The interest added to depositors' accounts was £128,640 10s. 9d.

The number of withdrawals was 190,606, and the amount £1,834,999 19s. 8d., being an increase of 6,697 in the number and a decrease of £45,854 12s. 1d. in the amount on the business of the previous year.

The balance at the credit of depositors at the close of the year was £4,121,699 19s. 6d., being an increase of £487,774 16s. 11d. on the previous year.

The average amount of each deposit was £7 8s. 0¾d., and of each withdrawal £9 12s. 6½d.

The average balance at the credit of each depositor at the close of the year was £31 5s. 10¾d.

The following return will show the annual progress of the Government Savings Bank system from 1st January, 1886, to 31st December, 1895:—

Year.	Number of Deposits.	Interest added to Depositors' Accounts.	Amount of Deposits.	Number of Withdrawals.	Amount of Withdrawals.	Balance at Credit of Depositors.
		£ s. d.	£ s. d.		£ s. d.	£ s. d.
1886	167,161	52,356 11 6	1,071,609 19 5	87,169	1,172,555 5 4	1,423,305 7 6
1887	172,823	50,717 4 10	1,026,269 15 7	84,110	998,838 13 8	1,501,453 14 3
1888	196,120	58,483 7 9	1,219,000 12 5	89,961	1,041,233 19 11	1,737,703 14 6
1889	208,174	61,871 13 0	1,115,863 4 1	104,522	1,185,547 16 3	1,729,890 15 4
1890	223,428	63,225 7 9	1,198,293 17 6	109,940	1,115,505 6 0	1,875,904 14 7
1891	265,659	72,280 10 4	1,509,376 16 3	125,298	1,304,099 0 3	2,153,463 0 11
1892	278,578	81,781 0 3	1,630,197 16 9	156,157	1,511,355 16 5	2,354,086 1 6
1893	296,077	99,566 0 3	2,816,084 13 9	182,003	2,038,561 3 4	3,233,288 16 10
1894	294,393	120,880 8 6	2,160,610 9 0	183,909	1,880,854 11 9	3,633,925 2 7
1895	296,356	128,640 10 9	2,194,133 15 10	190,606	1,834,999 19 8	4,121,699 19 6

The following return will show the business of the Government Savings Bank for the year 1895, compared with the transactions of the year 1894:—

Year.	Savings Banks open at the close of the year.	New accounts opened during the year.	Accounts closed during the year.	Accounts remaining open at the close of the year.	Total deposits, including interest.				Average amount of deposits.	Total withdrawals.		Average amount of withdrawals.	Balance at the credit of depositors at the close of the year.	Average balance at the credit of depositors.
					Number.	Amount.				Number	Amount.			
						Deposits.	Interest.	Total.						
						£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
1894	482	41,418	32,093	122,795	294,393	2,160,610 9 0	120,880 8 6	2,281,490 17 6	7 6 9¼	183,909	1,880,854 11 9	10 4 6½	3,633,925 2 7	29 11 10¼
1895	499	42,276	33,368	131,703	296,356	2,194,133 15 10	128,640 10 9	2,322,774 6 7	7 8 0¾	190,606	1,834,999 19 8	9 12 6½	4,121,699 19 6	31 5 10¾

In the information contained in Appendix A is given a detailed statement showing the business transacted at each branch in the Colony. A statement of the Liabilities and Assets, with the Auditor-General's certificate thereon, will be found in the Appendix. Appendix A. Appendix I.

The rate of interest on Government Savings Bank deposits has been reduced from £4 to £3 per cent. per annum, except in case of moneys remaining to the credit of depositors for the full period of twelve months from the 1st January in each year.

Electric

Electric Telegraphs.

The following return shows the lines of Electric Telegraph constructed and the cost of construction, also the lines dismantled, during the year 1895 :—

Line.	Dismantled		Constructed		Cost of Construction.
	Line	Additional Wire	Line.	Additional Wire	
	m. chs.	m. chs.	m. chs.	m. chs	£ s. d.
Wyalong to Ungarie			26 0		503 16 8
Old to New Office, Bellbrook			0 40	0 40	12 16 5
Chatsworth to Murrayville			3 11		67 19 6
Walgett to Carinda			40 45	0 64	818 10 4
Tareena-Wentworth Line to Cal Lal			5 67	5 67	180 15 7
Forbes-Condobolin Line to Waroo			2 70	2 70	79 8 4
Wilberforce to Sackville Reach			7 25		142 17 5
Old to New Office, Eauabalong			1 16	0 73	26 16 6
Bex Hill to Clunes				5 20	26 19 3
Byron Bay-Brunswick alterations	8 20		4 20	5 60	106 12 7
Murwillumbah to Byangum	4 0	2 0			
Alterations, Telephone Lines, South Broken Hill	10 0		17 0		179 19 6
City and other extensions—Telegraph and Telephone			28 29	579 56	6,762 14 5
Line dismantled	22 20				
Additional wire dismantled		2 0			
Line erected			137 3		
Additional wire erected				601 50	
Additional Line (wire) erected				137 3	
Total extent of wire erected during year				738 53	
Less wire dismantled				24 20	
Actual increase				714 33	
				£	8,909 6 6

The total cost of the whole extent of Telegraphic communication in the Colony on 31st December, 1895—28,799 miles 35 chains—was £840,380 5s. 10d.

Telegraph offices were opened at Hamilton, Tilba Tilba, and Tomingley (in lieu of the Telephone offices previously existing there), Cal Lal, Goulburn Railway Station, Junee Railway Station, Mittagong Railway Station, Ungarie, Waroo, and Wagga Wagga Railway Station. The offices at Brogan's Creek, Forbes Railway Station, and Nundah, were closed.

The names of the public Telephone Offices opened and closed are given under the heading of Telephone Branch.

The following Return shows the extent of line and wire in use, and the number of offices in existence on the 31st December, 1895 ; also the number and value of telegrams which passed over the lines during the year :—

Length of Line and Wire.

Miles of line	12,316
Miles of wire	28,799
Number of Offices*	834

* Includes 172 Public Telephone Offices and 215 Railway Telegraph and Telephone Offices.

Messages.

		Number.	Value
Inland		1,791,945	£100,820 11 10
Intercolonial	Received	349,773	39,612 6 9
	Despatched	342,573	37,645 3 3
	In Transit	95,019	22,332 6 1
International	Received	16,178	48,591 10 5
	Despatched	21,637	61,627 3 11
	In Transit	18,331	56,687 18 1
Total		2,635,456	£367,317 0 4

The number and value of telegrams despatched from each office in the Colony will be found in Appendix A. A statement showing the total amount of business transacted within the Colony, and with the several Australasian Colonies and

Appendix A

and other countries, and also the net revenue due to New South Wales on each class of business during the year 1895, is given hereunder :—

Received.			Despatched.			Net Revenue due to New South Wales.
	Number of Messages.	Value.		Number of Messages.	Value.	
		£ s. d.			£ s. d.	£ s. d.
Inland	1,791,945	100,820 11 10	Inland	1,791,945	100,820 11 10	100,820 11 10
From New Zealand	17,561	4,042 17 6	To New Zealand	18,328	3,529 0 4	1,569 7 2
From Queensland	83,743	12,064 15 10	To Queensland	77,021	9,107 8 6	10,573 2 3
From South Australia	51,052	5,425 19 1	To South Australia	46,300	5,832 4 2	5,593 12 4
From Tasmania	9,729	1,452 11 10	To Tasmania	9,852	1,574 0 3	674 16 7
From Victoria	170,810	13,173 19 8	To Victoria	177,140	15,032 9 9	14,098 8 6
From Western Australia	16,878	3,452 2 10	To Western Australia	13,932	2,570 0 3	2,007 8 0
From New Caledonia	1,165	689 18 11	To New Caledonia	1,321	849 6 9	174 7 4
From other Countries	15,013	47,901 11 6	To other Countries	20,316	60,777 17 2	3,747 6 9
Total	2,157,896	189,024 9 0	Total	2,156,155	200,092 19 0	139,259 0 9
			Messages which passed over N.S.W. lines from and to places outside the Colony (comprising New Zealand, New Caledonia, and Queensland business with places beyond N.S.W.).	113,350	79,020 4 2	6,642 7 1
				2,269,505	279,113 3 2	145,901 7 10

From the 1st April the reduced rate of 6d. for the first ten words chargeable on telegrams passing between East and West Maitland, Morpeth, and Hinton was extended to messages transmitted between these places and Largs and Woodville. A similar charge was in November applied to messages passing between Nowra and Bomaderry Railway Station. Amended regulations have been introduced, providing for a more satisfactory arrangement in regard to payment of the cost of "reply paid" telegrams; for the registration, for a short period, of code addresses for foreign telegrams on payment of a fee of 2s. 6d., and for a reduced porterage charge, within the Metropolitan district, on telegrams for delivery beyond 1 mile from a telegraph office.

The following return shows the amounts paid by each of the Colonies in connection with cable subsidies and guarantees during the year ended 30th April, 1896 :—

Colony.	Population on 5 April, 1891.	Contribution to—			Total Contribution.
		Duplicate Cable Subsidy between Port Darwin and Banjowangie.	Tasmanian Cable Subsidy.	New Zealand Guarantee.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
Victoria	1,140,405	13,245 13 11	1,717 0 8	1,320 16 9	16,283 11 4
New South Wales	1,132,234	13,150 15 10	1,704 14 8	1,311 7 6	16,166 18 0
New Zealand	620,030	.....	.....	718 2 7	718 2 7
South Australia	320,431	3,721 15 6	482 9 1	371 2 7	4,575 7 2
Tasmania	146,667	1,703 10 6	220 16 6	169 17 5	2,094 4 5
Western Australia	49,782	578 4 3	74 19 1	57 13 2	710 16 6
Totals	3,409,549	32,400 0 0	4,200 0 0	3,949 0 0	40,549 0 0

The receipts by the Cable Company and by the South Australian Government in respect of the Australasian traffic being in excess of the amounts guaranteed (£227,000 and £37,552 respectively), in connection with the reduced rates the Colonies were not called upon to contribute anything towards these guarantees for the twelve months ended 30th April, 1896.

The following Statement shows the Australasian Telegraph business transacted with Europe and the East during the year 1895 :—

Colony.	Forwarded.		Received.		Total.	
	Messages.	Amount.	Messages.	Amount.	Messages.	Amount.
		£ s. d.		£ s. d.		£ s. d.
South Australia	7,028	24,100 2 3	10,058	33,104 8 4	17,086	57,204 10 7
Victoria	16,411	65,945 19 1	15,650	61,123 7 10	32,061	127,069 6 11
Tasmania	556	1,237 12 10	510	1,266 11 11	1,066	2,504 4 9
New South Wales	17,761	60,652 1 5	15,013	47,901 11 6	32,774	108,553 12 11
New Zealand	7,136	27,476 9 1	6,632	23,239 7 4	13,768	50,715 16 5
Queensland	911	2,588 17 11	854	3,271 16 3	1,765	5,860 14 2
West Australia	12,029	58,983 8 2	9,845	42,412 5 6	21,874	101,395 13 8
Total	61,832	240,984 10 9	58,562	212,319 8 8	120,394	453,303 19 5

Telephone Branch.

During the year ended 31st December, 1895, there were added to the number of subscribers :—

To the Central Exchange	258
„ Branch Suburban Exchanges	188
„ Country Exchanges	21
Total	467

The following return shows the number of lines connected with the telephone system at the close of the year :—

Exchanges.	No. of Lines.
Central, Sydney	1,981
Branch, Suburban	667
Country	240
Telephone Bureaux	14
Extension Lines—City and Suburbs	530
„ „ Country	17
Private Lines—City and Suburbs...	237
„ „ Country	126
Total...	3,812
Total number of Telephones in use	4,096

The length of lines opened during the year was 593 miles and 39 chains, the cost of construction being £6,679 11s. 7d.

In addition to the central exchange at the General Post Office, exchanges are now open in the following Suburbs :—Ashfield, Balmain, Burwood, Edgecliff, Hunter's Hill, Manly, Newtown, North Sydney, Parramatta, Petersham, Randwick, and Waverley; and at Broken Hill, Goulburn, Newcastle, Wagga Wagga, and West Maitland in the country.

Telephone Bureaux for the use of the Public, on payment of a small fee, are now open at the General Post Office, Sydney, Abattoirs, Ashfield, Balmain, Burwood, Edgecliff, Hunter's Hill, Manly, Newtown, North Sydney, Parramatta, Petersham, Randwick, and Waverley.

Public Telephone Offices were established during the year at Clunes, Gabo Island, and Gongolgon (in lieu of the telegraph offices previously existing there), Bomaderry Railway Station, Carinda, Daysdale, Lilyfield, Lindfield, Lowesdale, Murrayville, Sans Souci, Sackville Reach, Turramurra, and Wahroonga.

Construction of Tunnels in the City of Sydney.

Owing to the increase in the number, and the congested condition of telegraphic and telephonic overhead wires throughout the city of Sydney, and more especially in the vicinity of the General Post Office, it has been found necessary to undertake the construction of tunnels for the conveyance of wires underground along the principal streets. A main subway is being constructed in a southerly direction from the General Post Office along Pitt-street to the Railway Station. In a northerly direction from the General Post Office towards the Sydney Exchange, in Bridge-street, a subway has been completed, and one has also been constructed from the General Post Office, in a westerly direction, to the junction of Clarence and Barrack Streets. The principal part of this work has been accomplished, and is still proceeding, by means of day labour under careful supervision.

Electric Light Branch.

During the year the electric light installation at Circular Quay, Parliament House, Cowper's Wharf, General Post Office, and the Jenolan Caves worked satisfactorily, the lights, with two exceptions, having been well maintained. The following are the exceptions referred to :—

On 29th October, a lorry collided with one of the Circular Quay arc lamp poles, causing the lamp to fall and break the circuit. This accident delayed the lighting of the Quay for three hours.

On

On 26th November, at 3.20 a.m., the lighting of Cowper's Wharf was stopped for 45 minutes, due to a flaw in the Commutator.

At the Circular Quay and Government House grounds it was found necessary, owing to decay, to remove nine arc light poles, and to erect new ones in their places.

The Government House grounds arc lights were worked on several occasions from the Circular Quay plant. In addition to the new poles erected in these grounds, new swinging and fixed iron brackets have been erected in place of the wooden arms formerly used for suspending the arc lamps.

During the year the Man-of-War waiting-room was fitted with three 25-candle power 10 ampère Series-Bernstein Lamps, and connected with Circular Quay circuit.

The Parliament House electric light and bells were extended to the Under Secretaries', Chairman of Committees', and other rooms.

The electric accumulators, mention of which was made in my previous report, having become so worn as to be unfit for use, have had to be dispensed with.

The tender of Messrs. Siemens Bros. has been accepted for the supply and erection of a new steam plant, consisting of a combined Willans engine of 60-h.p., and Siemens' dynamo of 30 kilowatt capacity, to take the place of the accumulators, and also to drive the rope hoists, pneumatic lathe, &c.

The hydraulic lifts in connection with the General Post Office and the Departmental stores in Lower George-street have been maintained in good working order throughout the year. The mail lift has been fitted with two extra guides and a new floor; and the main passenger lift with a new starting valve. The latter improvement has resulted in a saving of £63 per annum in water rates, as compared with the previous year.

In May the electric light was installed at the Post and Telegraph Office, Redfern, the current being supplied by the Redfern Borough Council from their central station. This installation has twelve incandescent lamps, and in addition to the saving effected in the cost of lighting, it has given greater satisfaction than the gas previously used.

Judging by the slightly improved revenue shown on the first page of this Report it seems apparent that a betterment of the commercial condition of the Colony took place in the year under review, and I earnestly hope that this improvement will continue.

I have the honor to be,

My Lord,

Your Lordship's most obedient servant,

JOSEPH COOK,

Postmaster-General.

Postal and Electric Telegraph Department,

General Post Office, Sydney, 16 July, 1896.

APPENDIX A.

RETURN showing names of Post and Telegraph Offices, number of Letters posted, Telegrams transmitted, Postal Notes paid, Money Orders issued and paid, Savings Bank Deposits and Withdrawals, Revenue received from each Office, Salaries and Allowances paid, and arrangements regarding premises during the year 1895.

Name of Office	Business transacted							Revenue				Expenditure.											Arrangements as regards Premises
												Salaries								Allowances.	Rent of Office	Total	
	No of Letters posted	No of Telegrams transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal	Telegraphic	Money Order and Postal Note	Total	Officers in charge	Assistants	Operators	Letter Carriers	Mail Boys	Messengers	Line Repairers	Other Employés				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Abattoirs	4,220	1,048						67	35		102	150		..		.	52		.	29		231	Govt. building.
Aberdeen	45,160	3,002	1,138	166	166	630	330	493	312	50	855	120		78			52			2	52	304	Rented.
Aberdeen Railway Station.		..					..			..	..			.	.					... ..	.	.	At Railway Station.
Acacia Creek	2,830							34			34	15									.. .	15	
Adamimby	24,720	901	632	51	68	50	46	246	57	30	333	180	20					.	.	3/10/	.	203/10/-	Govt. building.
Adamstown	42,950	453	180	379	204	260	224	144	20	12	176	120	25	.	78		52			39/10/-		314/10/-	do.
Adamstown Railway Station.	.					...					.	...		.							..	. ..	At Railway Station.
Adelong	70,320	2,373	1,130	334	300	439	186	585	134	54	773	254	52				52			4	..	362	Govt. building.
Adelong Crossing Place.	6,890	148					.		9		9	31								.. ..		31	
Albion Park	44,460	1,077	390	112	237	290	85	302	59	23	384	78					52			25		155	Govt. building.
Albury	472,340	17,287	2,284	1,702	3,494	2,371	1,066	3,470	1,144	140	4,754	362	227	200	170	78	3 at 52	150	75	231/10/-	.	3,251/10/-	do.
												326	180	160	135		39		Battery man				
													150	2 at 120	115				26				
													140						Cadet				
													91										
Albury Railway-Station.		1,002				.		.	50	...	50	.		..		.			..	... ..	.	.. .	At Railway Station.
Alectown	16,960	420	190	46	29	47	37	73	24	8	105	110					52		..	3	32/10/-	197/10/-	Rented.
Alexandria	144,670	1,821	546	599	,437	2,765	1,076	552	73	25	650	140		78	170	.	2 at 52			164/5/-	91	1,422/5/-	do.
															145								
															135								
															2 at 115								
															100								
															65								
Alison	1,760							26			26	11			..	.		.	.	. .	.	11	
Allandale	5,430	78	16	54	150		.	39	4	2	45	18	.				.			... .	. .	18	At Railway Station.
Allynbrook	4,720	.	32	9	29			30		2	32	20	..	..					.	..	..	20	
Alstonville	10,480	696	226	44	33	71	25	106	38	11	155	100		..		.			..	2	26	128	Rented.
Angledool	.	239	.	.					14		14	10	.						.	. . .	.	10	
Annandale	53 230	2,926	296	658	929	1,947	646	940	115	19	1,074	160	.	39	100		52	.	.	43	100	663	Rented.
															91								
															78								
Appin	5,850	200	148	45	54	.	.	59	11	6	76	59	.	..		.	.		..	.. .		59	
Arakoon	8,200	771	374	29	22	110	12	37	63	15	115	120	20			.		..	..	3	52	195	Rented.
Araluen	24,640	844	539	187	133	105	77	211	45	26	282	160	78	..				.		2	.	240	Govt. building.
Ardglen	3,930	58	.	...				46	3	..	49	16	...		.		.	.	..	.... .	.. .	16	At Railway Station.
Arding	710	..	.	.	..	.		12	...	...	12	10/10/-	.	..	...	...	...	.	.	. .	. . .	10/10/-	
Argent's Hill	1,100	. . .	.	..	..	..	..	21	..	...	21	10/10/-	..	..	...	...	..	...		... ..	.. ..	10/10/-	
Argoon	2,480	. .	..	..	...		...	44	...	...	44	15	...	..		..	...	..	...	. . .	. .	15	
Arkstone	1,830	.	..	...	..	...	...	10	...	..	10	10/10/-	...	...	..	..	...	..	...	. . .	. ...	10/10/-	
Armidale	434,690	13,557	2,830	2,205	4,328	1,960	934	2,690	1,039	151	3,880	335	160	150	120	...	2 at 52	150	..	160/1/3	.... .	1,715/17/3	Govt. building.
													78	140	78		20/16/-						
												.		120									
														100									
Armidale Rail. Stn.	.....	1,122	...	...	...	..	...	.. ..	63	...	63	...	...	...	...	...	...	...	...	.....	.....	. ....	At Railway Station.

Arncliffe	49,980	1,188	189	261	252	485	233	202	40	10	52	130	..	..	78	52	26	...	...	103	13	402	Rented.
Arthurville	620	.....	...	...	...	..	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Ashfield	233,700	5,383	851	1,270	2,511	2,078	880	1,408	216	53	1,677	290	...	140	120	52	3 at 52	...	65	192/10/-	.....	1,580/10/-	Govt. building.
														110	115		26		65 Switchboard attendants.				
															110				39				
															100								
Ashford	4,940	.....	...	...	...	...	...	18	...	...	18	18/10/-	...	...	...	...	...	...	...	.....	.....	18/10/-	
Ash Island	2,340	.....	...	...	...	...	...	49	...	...	49	12	...	...	...	...	...	...	...	.....	.....	12	
Attunga	8,780	.....	...	...	...	...	...	24	...	...	24	24/10/-	...	...	...	...	...	...	...	.....	.....	24/10/-	
Attunga Springs	3,170	.....	...	...	...	...	...	14	...	...	14	10	...	...	...	...	...	...	...	.....	.....	10	
Auburn	76,420	2,527	655	465	999	808	424	430	94	30	554	120	52	...	120	...	52	...	...	101/10/-	.....	523/10/-	Govt. building.
															78								
Audley	950	.....	...	...	...	...	...	13	...	...	13	13	...	...	...	...	...	...	...	.....	.....	13	
Austinmer	2,600	.....	...	...	...	...	...	37	...	...	37	17	...	...	...	...	...	...	...	.....	.....	17	
Austral	1,570	.....	...	...	...	...	...	11	...	...	11	10	...	...	...	...	...	...	...	.....	.....	10	
"Australia Hotel"	.....	7,545	...	...	...	...	...	.....	655	...	655	110	...	...	...	...	..	...	...	.....	.....	110	
Avisford	2,350	.....	...	...	...	...	...	14	...	...	14	14	...	...	...	...	...	...	...	.....	.....	14	
Avoca	3,400	.....	...	...	...	...	...	61	...	...	61	21	...	...	...	...	...	...	...	.....	.....	21	
Awaba	3,290	.....	...	...	...	...	...	28	...	...	28	11	...	...	...	...	...	...	...	.....	.....	11	At Railway Station.
Baan Baa	9,700	283	...	...	...	...	...	78	17	2	97	19	...	...	...	...	...	...	...	.....	.....	19	do
Baerami	6,460	.....	...	...	...	...	...	64	...	...	64	22	...	...	...	...	...	...	...	.....	.....	22	
Baker's Swamp	2,160	.....	..	...	...	...	...	12	...	...	12	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Balala	1,090	.....	...	...	...	...	...	19	..	...	19	16	...	...	...	...	...	...	...	.....	.....	16	
Balderodgery	2,910	.....	...	...	...	...	...	17	...	1	18	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bald Nob	1,290	.....	...	...	...	...	...	15	...	...	15	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Balgowlah	1,020	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.. ...	10/10/-	
Balgownie	6,030	89	117	15	31	30	40	43	5	5	53	42/10/-	...	...	...	...	..	...	...	.....	.....	42/10/-	
Ballalaba	4,320	.....	...	...	...	...	...	21	...	..	21	21/10/-	...	...	...	...	...	..	...	.....	.....	21/10/-	
Ballina	136,990	8,299	2,081	358	691	723	249	531	627	76	1,234	254	30	100	78	...	52	...	...	80	.....	685	Govt. building.
														91									
Balmain	348,310	5,386	1,138	2,758	3,012	3,961	1,731	1,359	227	73	1,659	236	160	150	160	2 at 78	3 at 52	...	52	265/10/-	.....	2,429/10/-	do
													78	100	140	65			52 Switch attendants				
															130	52			52				
															120								
															115								
															65								
Balmoral[1]	4,190	101	54	29	52	...	...	69	6	5	80	17	10	...	...	...	..	...	...	.....	.....	27	At Railway Station.
Balranald	69,070	4,218	712	194	280	393	94	1,133	298	42	1,473	200	110	160	...	...	26	...	...	72/17/6	.....	568/17/6	Govt. building.
Bandon Grove	2,980	.....	...	...	...	...	...	30	...	...	30	22/10/-	...	...	...	...	...	...	...	.....	.....	22/10/-	
Bangalow	5,050	.....	...	...	...	...	...	49	...	1	50	18	...	...	...	...	...	...	...	.....	.....	18	
Bankstown	7,790	275	56	47	48	56	34	88	10	3	101	50	...	...	...	...	...	...	...	.....	.....	50	
Bannaby	1,990	.....	...	...	...	...	...	19	...	...	19	14	...	...	...	...	...	...	...	.....	.....	14	
Baradine	7,770	755	250	12	16	...	...	128	48	12	188	120	15	...	...	...	...	...	...	3	52	190	Rented.
Barber's Creek	5,470	.....	...	...	...	...	...	72	...	...	72	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Bargo	2,140	.....	...	...	...	...	...	18	...	...	18	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Barham[2]	3,130	.....	...	...	...	...	...	14	...	...	14	10	...	...	...	...	...	...	...	.....	.....	10	
Barmedman	27,270	2,605	649	163	175	62	59	269	170	28	467	120	...	78	...	...	52	...	...	4	52	306	Rented.
Barraba	69,210	2,138	694	139	107	159	73	489	135	36	660	227	...	100	...	...	...	...	...	4	.....	331	Govt. building.
Barragan	1,980	.....	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Barranjoey	1,630	234	...	...	...	...	...	15	15	...	30	54	...	...	...	...	...	...	...	1	.....	55	At Pilot Station.
Barrengarry	16,090	.....	...	...	...	...	...	121	...	...	121	25	...	...	...	...	...	...	...	.....	.....	25	
Barrington	6,190	....	...	...	...	...	...	102	...	3	105	28	...	...	...	...	...	...	...	.....	.....	28	
Barringun	9,030	2,208	347	42	47	79	63	161	146	20	327	130	...	...	...	...	26	...	...	72/10/6	60	288/10/6	Rented.
Barry	2,700	.....	...	...	...	...	...	22	...	...	22	11	...	...	...	...	...	...	...	.....	.....	11	
Barwang	1,390	.....	...	...	...	...	...	10	...	...	10	11	...	...	...	...	...	...	...	.....	.....	11	
Bateman's Bay	8,100	1,631	458	163	81	101	46	132	89	18	239	140	26	...	...	..	..	...	...	11	.....	177	Govt. building.
Bathurst	568,920	13,757	4,765	6,660	9,349	2,651	1,481	4,510	1,177	231	5,918	380	200	2 at 218	115	39	2 at 52	150	...	283/10/-	.....	3,557/10/-	do
												335	180	160	2 at 105	26	39						
													120	150	78								
													100	120									
													70	110									
													52	100									

Note.—Offices printed in Italics are Telegraph Offices only, and unless otherwise shown, the Telegraph returns are included in those of the nearest public office. For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Bathurst Railway Station.	... ..	777	...	...	...	...	...	135	45	...	180	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Batlow	8,330	336	166	26	25	48	5	121	21	8	150	51	...	...	...	...	...	...	...	.....	.....	51	
Baulkham Hills	4,420	... ..	...	...	...	...	...	49	...	...	49	36/10/-	...	...	...	...	...	...	...	.....	.....	36/10/-	
Bayview	6,410	206	...	...	...	...	...	72	12	1	85	47/10/-	...	...	...	...	...	...	...	.....	.....	47/10/-	
Beachport	1,270	388	84	8	11	12	3	.....	32	4	36	65/10/-	...	...	...	...	...	...	...	1	.....	66/10/-	At Pilot Station.
Bear Hill	1,660	.....	...	...	...	...	...	30	...	...	30	21	...	...	...	...	...	...	...	.....	.....	21	
Beaufort	1,710	.....	...	...	...	...	...	20	...	...	20	14	...	...	...	...	...	...	...	.....	.....	14	
Bective	720	.....	...	...	...	...	...	14	...	...	14	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bedgerebong	1,750	.....	...	...	...	...	...	33	...	...	33	13	...	...	...	...	...	...	...	.....	.....	13	
Beechwood	4,120	240	...	...	...	...	...	.....	14	...	14	27	...	...	...	...	...	...	...	.....	.....	27	
Beecroft[3]	2,680	44	...	...	...	...	...	9	1	..	10	20	...	...	...	...	...	...	...	.....	.....	20	
Bega	130,700	7,289	1,762	681	1,539	705	321	1,004	500	87	1,591	236	65	200 140	100	...	39 ...	150	Cadet Nil	78	.....	1,008	Govt. building.
Belarbigill	1,030	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	.....	.....	10	
Belford	2,770	.....	...	...	...	...	...	52	...	...	52	15	...	...	...	...	...	...	...	10	.....	25	
Belgravia	720	.....	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bell	3,980	162	...	...	...	...	...	53	9	4	66	21	..	...	...	...	...	...	...	.. ...	.....	21	At Railway Station.
Bellambi	18,110	.....	211	20	42	...	...	109	...	11	120	17	...	...	...	...	...	...	...	.....	.....	17	do
Bellbrook	4,420	491	...	...	...	...	...	46	29	...	75	190	10	...	...	...	...	...	...	40/10/-	34	274/10/-	Rented.
Bellingen	23,170	2,136	455	253	208	45	32	187	173	22	382	100	...	...	...	...	26	...	..	.....	26	152	do
Bellinger Heads	19,910	636	...	...	...	...	...	16	37	...	53	19	...	26	...	...	...	...	...	.....	.....	45	At Pilot Station.
Bell's Creek	5,510	.....	...	...	...	...	...	12	...	...	12	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Belltrees	.....	662	...	...	...	...	...	.....	41	...	41	..	...	...	...	...	...	...	...	.....	.....	.....	
Belmont	11,270	407	70	147	184	26	19	69	23	5	97	87/14/-	...	...	...	...	39	...	...	23/16/-	.....	150/10/-	
Bemboka	44,190	906	218	49	90	46	21	125	58	12	195	110	91	...	...	...	52	...	...	5	30	288	Rented.
Ben Bullen	9,370	.....	...	...	...	...	...	60	...	...	60	20	...	...	...	..	...	...	...	.....	.....	20	At Railway Station.
Bendemeer	11,440	230	219	14	24	...	...	109	13	10	132	87/18/-	...	...	...	...	...	...	...	28	.....	115/18/-	
Bendolba	3,260	.....	...	...	...	...	...	6	...	...	6	29/10/-	...	...	...	...	...	...	...	.....	.....	29/10/-	
Ben Lomond Railway Station.	6,610	78	121	16	24	...	...	60	5	6	71	23	...	...	...	...	...	...	...	.....	.....	23	At Railway Station.
Bergalia	2,740	.....	...	...	...	...	...	36	...	...	36	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Bermagui	8,000	255	191	46	58	...	...	103	14	8	125	50/10/-	...	...	...	...	...	...	...	8	.....	58/10/-	
Bermagui South	.....	523	...	...	...	...	...	.....	28	...	28	26	...	...	...	...	...	...	...	.....	.....	26	
Berrellan	3,190	.....	...	...	...	...	...	26	...	...	26	10	...	...	...	...	...	...	...	.....	.....	10	
Berremangra[4]	830	.....	...	...	...	...	...	11	...	...	11	10	...	...	...	...	...	...	...	.....	.....	10	
Berridale	15,810	656	252	22	48	61	34	176	37	12	225	150	...	...	...	...	26	...	...	2/10/-	36	214/10/-	Rented.
Berrigan	27,190	2,661	528	59	90	...	...	283	174	27	484	130	...	...	...	...	39	...	...	3	48	220	do
Berrima	33,970	833	401	112	142	122	29	129	62	17	208	160	15	...	...	...	...	...	...	4	... ..	179	Govt. building.
Berry	126,400	2,794	814	144	317	295	142	593	162	42	797	236	110	...	91	...	...	...	...	18	.....	455	do
Bethungra	13,420	351	366	60	63	80	31	171	23	20	214	42	...	...	...	...	...	...	...	.....	.....	42	At Railway Station.
Bevendale	1,100	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bexhill	2,860	110	...	...	...	...	...	.....	6	...	6	22	...	...	...	...	...	...	...	.....	.....	22	
Bexley	7,970	... ..	...	...	...	...	...	34	...	...	34	15	...	...	...	...	...	...	...	.....	.....	15	
Bibbenluke	11,300	388	...	...	...	...	...	30	22	...	52	49/10/-	...	...	...	...	...	...	...	.....	5	54/10/-	Rented.
Bigga	5,230	.....	...	...	...	...	...	41	...	...	41	26/10/-	...	...	...	...	...	...	...	.....	.....	26/10/-	
Big Hill	1,970	.....	...	...	...	...	...	40	...	...	40	20	...	...	...	...	...	...	...	.....	.....	20	
Billeroy	3,010	.....	..	...	...	...	...	13	...	...	13	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Billinudgel[5]	3,140	.....	...	...	...	...	...	15	...	...	15	10	...	...	...	...	...	...	...	.....	.....	10	
Bimbi	3,220	.....	...	...	...	...	...	35	...	...	35	11	...	...	...	...	...	...	...	.....	.....	11	
Binalong	19,610	744	693	65	122	79	34	248	47	25	320	64	12	...	...	...	...	...	...	.....	.....	76	At Railway Station.
Binda	12,010	341	270	57	50	...	...	106	17	11	134	65	...	...	...	...	...	...	...	.....	.....	65	
Bingara	92,500	3,562	1,066	237	216	308	114	561	249	47	857	180	78 26	...	78	...	52	...	..	43/10/-	.....	457/10/-	Govt. building.

Binnaway	4,930	.....	...	...	...	...	...	50	...	1	51	22/10/-	...	...	...	...	...	...	...	.....	.....	22/10/-	
Bishop's Bridge	1,920	.....	...	...	...	...	...	14	...	..	14	14	...	...	...	...	...	...	...	.....	.....	14	
Blackheath	45,330	1,981	410	227	334	169	84	440	102	30	572	160	5	...	91	...	...	..	...	40/10/-	75	371/10/-	Rented.
Blackheath Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Blackman's Point	720	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	... ..	.....	10/10/-	
Black Mountain	6,590	135	131	48	87	...	...	86	8	7	101	28	...	...	...	...	...	...	...	.....	.....	28	At Railway Station.
Black Range	1,650	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Black Springs	2,920	.....	91	6	6	...	...	27	...	2	29	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Blacktown	13,960	398	107	72	96	..	...	83	22	5	110	55	...	...	...	...	...	...	...	.....	.....	55	At Railway Station.
Blackville	7,500	390	142	13	55	51	14	74	23	9	106	100	...	...	...	...	...	...	...	1/10/-	.....	101/10/-	Free, by guarantors.
Blackwall	8,570	416	183	68	94	47	10	47	22	9	78	65	...	...	...	...	...	...	...	.....	.....	65	
Blakehurst	1,560	.....	...	...	...	...	...	16	...	...	16	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Blandford	12,370	261	...	...	...	...	...	97	16	...	113	29	65	...	...	...	...	...	...	.....	.....	94	At Railway Station.
Blayney	81,000	3,019	956	561	838	374	160	749	235	54	1,038	254	130	180	110	...	52	...	...	49/10/-	.....	775/10/-	Govt. building.
Blayney Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Blowering	2,620	.....	...	...	...	...	...	11	...	...	11	12	...	...	...	...	...	...	...	.....	.....	12	
Bluey	1,020	.....	...	...	...	...	...	11	...	...	11	11	...	...	...	...	...	...	...	.....	.....	11	
Bodalla	17,040	1,041	332	59	68	80	51	177	59	16	252	140	26	...	...	...	...	...	...	84	36	286	Rented.
Boggabilla	9,630	1,033	214	17	27	71	23	165	72	12	249	150	15	...	...	..	...	...	...	23	52	240	do
Boggabri	43,810	2,414	587	165	207	227	71	455	156	33	644	218	150	...	...	...	52	...	...	3	.....	423	Govt. building.
Boggabri Railway Station.	.. ...	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Boggy Flat	1,430	.....	...	...	...	...	...	23	...	...	23	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Bolivia	3,950	56	101	9	6	1	3	91	3	5	99	34	...	...	...	...	...	...	...	... ..	.....	34	At Railway Station.
Boloko	2,920	.....	...	...	...	...	...	15	...	...	15	12	...	...	...	...	...	...	...	.....	.....	12	
Bolong	2,220	.....	...	...	...	...	...	17	...	...	17	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bomaderry[6]	3,970	104	...	...	...	...	...	20	5	...	25	13	...	...	...	...	...	...	...	.....	.....	13	
Bombala	128,280	4,359	1,018	409	473	245	88	830	347	52	1,229	254	100	140	78	...	...	...	...	20	.....	592	Govt. building.
Bombo	1,910	.....	...	...	...	...	...	14	...	...	14	11	...	...	...	...	...	...	...	10	.....	21	
Bomen	3,070	88	19	18	14	5	4	11	6	1	18	18	...	...	...	...	...	...	...	.....	.....	18	At Railway Station.
Bondi	49,770	1,955	203	258	402	733	317	255	79	12	346	67	...	100	78 65	...	52	...	...	77	32/10/-	471/10/-	Rented.
Bongongolong	3,480	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bonshaw	5,040	.....	...	...	...	...	...	81	...	...	81	26	...	...	...	...	...	...	...	.....	.....	26	
Bookham	6,380	.....	178	21	27	...	...	90	...	8	98	31/10/-	...	...	...	...	...	...	...	.....	.....	31/10/-	
Boolambayte	700	.....	...	...	...	...	...	12	...	...	12	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Booligal	37,410	1,880	321	68	38	48	19	495	123	14	632	236	...	140	...	...	...	...	...	26	.....	402	Govt. building.
Boomey	1,870	.....	...	...	...	...	...	3	...	...	3	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Booral	11,240	320	...	...	...	...	...	.....	21	...	21	56	...	...	...	...	...	...	...	.....	.....	56	
Boorooma	.....	576	...	...	...	...	...	.....	40	...	40	10	...	...	...	...	...	...	...	.....	.....	10	
Booroorban	26,060	.....	...	...	...	...	...	.....	...	...	.....	30/10/-	...	...	...	...	...	...	...	.....	.....	30/10/-	
Borenore	5,770	120	106	31	34	47	6	78	6	5	89	36	...	...	...	...	...	...	...	.....	.....	36	At Railway Station.
Boro	5,220	.....	...	...	...	...	...	30	...	...	30	30/10/-	...	...	...	...	...	...	...	.....	.....	30/10/-	
Botany	21,320	.....	...	...	..	...	...	90	...	...	90	67/10/-	...	...	130	...	...	...	...	36/10/-	31/4/-	265/4/-	Rented.
Bourbah	1,040	.....	...	...	...	...	...	7	...	...	7	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Bourke	387,380	24,126	2,995	1,500	1,506	2,016	973	3,166	1,813	162	5,141	371	2 at 110	140 2 at 120 3 at 100	52	...	2 at 52 39	150 75	...	238/2/6	.....	1,929/2/6	Govt. building.
Bourke Railway Station.	... ..	.....	...	...	...	...	...	.....	...	...	.....	...	..	...	...	...	...	...	...	.....	.....	.. ...	At Railway Station.
Bowan Park	1,730	.....	..	...	...	...	...	8	...	...	8	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Bowenfels	27,860	136	188	98	195	108	41	108	7	10	125	56	...	...	...	...	...	...	...	.....	.....	56	At Railway Station.
Bowling Alley Point	5,110	.....	...	...	...	...	...	117	...	...	117	22	...	...	...	...	...	...	...	.....	.....	22	
Bowna	23,090	318	125	22	32	9	8	54	21	4	79	140	...	...	...	...	...	...	...	23	.....	163	Provided by postmistress.
Bowning	26,710	322	444	71	87	58	26	117	19	17	153	60	20	...	...	...	...	...	...	.. ...	.....	80	At Railway Station.
Bowral	188,710	4,514	1,394	721	1,312	963	385	1,427	269	78	1,774	218	78	100	125 52	...	26	...	...	109/10/-	.....	708/10/-	Govt. building.
Bowraville	12,310	1,092	490	71	47	35	9	87	68	18	173	110	...	...	...	...	52	...	...	2/10/-	31/4/-	195/14/-	Rented.
Box Ridge	1,710	.....	...	...	...	...	...	13	...	...	13	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Braidwood	129,080	3,786	1,489	630	1,214	451	241	900	252	71	1,223	299	78 52	110	...	...	26	...	...	66/10/-	.....	631/10/-	Govt. building.

NOTE.—For references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders Paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Branxton	43,810	955	680	170	330	241	133	283	65	27	375	180	...	91	...	...	...	...	...	4	65	340	Rented.
Branxton Ry. Stn.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Brawlin	3,850	.....	...	...	...	...	...	34	...	...	34	10/10/-	...	...	...	...	...	...	...	10	.....	20/10/-	
Breadalbane	17,830	255	188	61	81	34	13	107	15	7	129	45	20	...	...	...	...	...	...	.....	.....	65	At Railway Station.
Bredbo[7]	2,750	.....	...	...	...	...	...	23	...	...	23	13	...	...	...	...	...	...	...	15	.....	28	
Breeza	17,610	669	448	16	25	37	12	120	38	16	174	54	...	...	...	...	...	...	...	.....	.....	54	At Railway Station.
Brewarrina	98,640	8,091	1,070	251	162	210	97	1,175	547	46	1,768	263	91	200 100	...	...	26	...	...	46	.....	726	Govt. building.
Brewongle	5,860	132	54	43	72	...	...	47	7	3	57	53	...	...	...	...	...	...	...	.....	.....	53	At Railway Station.
Bridgeman	1,730	.....	...	...	...	...	...	14	...	...	14	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Brindabella	1,630	.....	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bringagee	6,530	720	...	...	...	...	...	.....	47	...	47	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Bringelly	9,490	.....	145	61	79	...	...	62	...	7	69	25	...	...	...	...	...	...	...	.....	.....	25	
Broadwater	42,620	3,612	1,045	109	106	604	181	291	224	56	571	160	78	78	...	...	...	...	...	3/10/-	39	358/10/-	Rented.
Brocklehurst	1,430	.....	...	...	...	...	...	11	...	...	11	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Brocklesby	4,000	295	...	...	...	...	...	.....	19	...	19	60	...	...	...	...	...	...	...	.....	.....	60	At Railway Station.
Brodie's Plains	1,490	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Brogo	4,120	.....	...	...	...	...	...	29	...	...	29	22/10/-	...	...	...	...	...	...	...	.....	.....	22/10/-	
Broke[8]	5,920	237	172	23	33	17	12	51	13	7	71	130	...	...	...	...	...	...	...	2	25	157	Rented.
Broken Hill	376,610	37,991	9,253	3,428	2,141	9,194	3,376	4,596	3,310	521	8,427	308 299	160 4 at 140 130 2 at 91	200 2 at 190 150 2 at 140 2 at 110 78	125 110 100 78	... ...	52 39 3 at 26	150	200 Telephone fitter. 78 65 52 Switchboard attendants.	985/5/-	.....	5,059/5/-	Govt. building.
Broken Hill Railway Station.	28,520	1,582	1,350	107	68	854	352	184	129	54	367	130	...	...	91	...	52	...	...	82	52	407	Rented.
Brookfield	1,870	.....	...	...	...	...	...	15	...	...	15	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Brooklyn (*See Hawkesbury.*)	8,920	.....	312	573	680	34	23	54	...	9	63	27	...	...	...	...	...	...	...	14	.....	41	At Railway Station.
Brooman	1,560	.....	...	...	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Broughton Vale	690	.....	...	...	...	...	...	23	...	...	23	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Broughton Village	1,100	.....	...	...	...	...	...	3	...	...	3	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Brownlow Hill	4,850	.....	...	...	...	...	...	32	...	...	32	16	...	...	...	...	...	...	...	.....	.....	16	
Brown's Creek	6,770	.....	...	...	...	...	...	49	...	1	50	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Brownsville	6,000	.....	...	...	...	...	...	33	...	...	33	24	...	...	...	...	...	...	...	.....	.....	24	
Brundah Creek	720	.....	...	...	...	...	...	10	...	...	10	11	...	...	...	...	...	...	...	.....	.....	11	
Brungle	2,390	.....	...	...	...	...	...	22	...	...	22	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Brunswick	2,200	772	141	60	27	18	26	6	45	6	57	78	...	...	...	...	...	...	...	4	36 8/-	118/8/-	Rented.
Brushgrove	17,940	970	263	58	61	57	29	141	53	14	208	110	...	...	...	...	52	...	...	16/10/-	.....	178/10/-	Govt. building.
Brushy Hill	670	.....	...	...	...	...	...	20	...	...	20	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bryan's Gap	730	.....	...	...	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Buchanan	2,340	.....	...	...	...	...	...	34	...	...	34	14	...	...	...	...	...	...	...	.....	.....	14	
Buckendoon	1,070	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Buckley's Crossing Place.[8]	9,130	582	175	28	33	7	5	145	38	9	192	92	...	...	...	...	...	...	...	.....	.....	92	
Budgee Budgee	1,390	.....	...	...	...	...	...	23	...	...	23	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Bugilbone	3,810	733	...	...	...	...	...	21	48	...	69	55	...	...	...	...	...	...	...	.....	.....	55	
Bukkulla	1,240	.....	...	...	...	...	...	15	...	...	15	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Bulahdelah	11,650	992	514	132	86	51	22	119	69	19	207	160	...	...	...	...	...	...	26 cadet	3	20	209	Rented.
Bulga	4,700	220	...	...	...	...	...	40	13	...	53	36/10/-	...	...	...	...	...	...	...	.....	.....	36/10/-	
Bulgandramine	4,100	.....	...	...	...	...	...	24	...	...	24	24	...	...	...	...	...	...	...	.....	.....	24	
Bullagreen[9]	3,000	.....	...	...	...	...	...	4	...	...	4	10	...	...	...	...	...	...	...	.....	.....	10	

Bullarah	5,150	.....	...	...	...	...	...	45	...	...	45	21	...	...	...	...	...	...	...	.....	.....	21	
Bullenbong	2,960	.....	...	...	...	...	...	13	...	...	13	10	...	...	...	...	...	...	...	.....	.....	10	
Bulli	20,330	474	223	166	184	98	56	123	26	9	163	89	...	...	...	...	...	...	...	.....	.....	89	
Bulli Railway Station.	32,540	2,207	318	43	172	223	124	206	123	20	349	200	...	100	2 at 78	...	52	...	...	119	.....	627	At Railway Station.
Bull Plain	4,950	.....	...	...	...	...	...	37	...	...	37	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Bull Ridge[9]	430	.....	...	...	...	...	...	2	...	...	2	10	...	...	...	...	...	...	...	.....	.....	10	
Bumberry	3,000	.....	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Bumble	4,480	.....	...	...	...	...	...	16	...	...	16	16	...	...	...	...	...	...	...	.....	.....	16	
Bundanoon	18,050	371	317	137	167	75	49	218	19	17	254	48	...	...	...	...	15	...	...	10	.....	73	Telegraph Office at Railway Station.
Bundarra	25,480	1,118	361	63	36	78	38	205	66	15	286	236	...	26	...	...	...	...	...	4	.....	266	Govt. building.
Bundella	4,330	366	...	...	...	...	...	83	22	...	105	47/10/-	...	...	...	...	...	...	...	.....	.....	47/10/-	
Bungawalbin	1,810	.....	...	...	...	...	...	57	...	...	57	17	...	...	...	...	...	...	...	.....	.....	17	
Bungendore	98,480	1,975	566	262	404	146	86	516	120	37	673	180	30	...	65	...	...	...	...	27/8/-	65	367/8/-	Rented.
Bungonia	5,450	.....	59	29	20	...	...	55	...	3	58	41/10/-	...	...	...	...	...	...	...	.....	.....	41/10/-	
Bungowannah	1,470	.....	...	...	...	...	...	14	...	...	14	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Bungwall Flat	6,410	534	149	46	46	26	18	59	36	7	102	110	...	...	...	...	...	...	...	2	16	128	Rented.
Bunnan	4,970	.....	...	...	...	...	...	53	...	...	53	12	...	...	...	...	...	...	...	.....	.....	12	
Burns, Philp, & Co.	.....	4,074	...	...	...	...	...	.....	1,409	...	1,409	...	...	...	...	...	...	...	...	.....	.....	.....	
Burradoo	29,060	574	...	...	...	...	...	136	38	...	174	54/10/-	...	...	...	...	52	...	...	.....	.....	106/10/-	
Burraga	13,920	839	618	129	76	117	44	175	46	23	244	120	...	...	...	...	...	...	...	3	26	149	Rented.
Burragorang	6,360	.....	...	...	...	...	...	55	...	...	55	25	...	...	...	...	...	...	...	.....	.....	25	
Burrawang	22,110	416	301	73	49	93	28	99	23	12	134	150	...	...	...	...	26	...	...	4	52	232	Rented.
Burrendong	8,490	.....	...	...	...	...	...	23	...	...	23	14	...	...	...	...	...	...	...	.....	.....	14	
Burrier	1,580	.....	...	...	...	...	...	12	...	...	12	12	...	...	...	...	...	...	...	.....	.....	12	
Burringbar	3,230	370	...	...	...	...	...	44	25	...	69	39	...	...	...	...	...	...	...	.....	.....	39	
Burrowa	75,960	2,023	881	272	336	183	92	705	127	43	875	227	91 30	...	78	...	...	...	...	39/10/-	.....	465/10/-	Govt. building.
Burrumbuttock	3,920	.....	...	...	...	...	...	12	...	...	12	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Burwood	225,360	6,190	830	821	2,039	2,260	1,002	1,608	249	60	1,917	236	180 78	100	3 at 125 120 105 91 78	...	3 at 52	...	3 at 52 Switch attendants.	344	32 10/- Stabling	2,051/10/-	Govt. building.
Buxton[10]	2,360	.....	...	...	...	...	...	34	...	...	34	10	...	...	...	...	...	...	...	.....	.....	10	
Bylong	3,060	.....	...	...	...	...	...	22	...	...	22	14	...	...	...	...	...	...	...	.....	.....	14	
Byng	2,770	.....	...	...	...	...	...	23	...	...	23	16	...	...	...	...	...	...	...	.....	.....	16	
Byrock	37,980	2,664	868	156	145	125	64	387	155	37	579	227	...	91	65	...	...	...	...	17	.....	400	Govt. building.
Byrock Railway Station	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Byron Bay	13,560	2,027	438	176	122	124	63	221	120	19	360	130	...	...	...	...	52	...	...	2	39	223	Rented.
Bywong[9]	5,970	.....	...	...	...	...	...	29	...	...	29	10	...	...	...	...	...	...	...	.....	.....	10	
Cable's Siding	2,890	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	.....	.....	10	
Cabramatta	3,250	.....	...	...	...	...	...	18	...	...	18	11	...	...	...	...	...	...	...	.....	.....	11	
Cadia	2,930	.....	45	24	7	...	...	37	...	2	39	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Cal Lal[11]	370	56	...	...	...	...	...	9	3	...	12	52	...	...	...	...	...	...	...	.....	10	62	Rented.
Caloola	2,000	.....	...	...	...	...	...	24	...	...	24	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Camberwell	2,090	.....	...	...	...	...	...	37	...	...	37	11/2/-	...	...	...	...	...	...	...	25/18/-	.....	37	
Cambewarra	17,980	265	178	45	56	44	37	149	13	6	168	84/10/-	...	...	...	...	...	...	...	1/10/-	25	111	Rented.
Camden	109,710	2,837	939	439	606	623	237	588	141	41	770	209	...	110	105	...	26	...	...	28	.....	478	Govt. building.
Camden Haven	2,590	.....	...	...	...	...	...	21	...	...	21	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Camden Haven Heads.	.....	22	...	...	...	...	...	.....	1	...	1	26	...	...	...	...	...	...	...	.....	.....	26	At Pilot Station.
Campbelltown	89,370	2,002	586	449	847	351	175	547	108	35	690	300	120	100 78	65	...	...	...	...	46/10/-	.....	709/10/-	Govt. building.
Camperdown	125,430	2,915	472	615	793	1,614	797	489	112	23	624	236	...	110 100	...	...	2 at 52	...	...	36/10/-	130	716/10/-	Rented.
Canadian Lead	2,870	.....	87	33	6	...	...	28	...	3	31	22	...	...	...	...	...	...	...	.....	.....	22	
Canberra	3,950	.....	...	...	...	...	...	43	...	...	43	16	...	...	...	...	...	...	...	.....	.....	16	
Candelo	34,810	2,048	553	156	291	135	57	373	132	26	531	150	...	110	...	..	52	...	...	5	.....	317	Govt. building.
Cauley Vale	7,220	54	...	...	...	...	...	.....	3	...	3	19	...	...	...	...	...	...	...	.....	.....	19	At Railway Station.

NOTE.—For references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.											
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.	Allowances.	Rent of Office.	Total.	
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Cannonbar	5,130	602	79	11	12	18	10	50	38	5	93	94/10/-	...	...	...	...	...	...	...	3	.....	97/10/-	Govt. Building.
Canoblas	1,010	.....	..	...	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	...	.. ...	.....	10/10/-	
Canowindra.....	31,990	1,194	548	103	129	84	32	304	67	26	397	200	120	...	91	...	...	...	...	3	40	454	Rented.
Canterbury	53,990	789	119	211	235	280	199	127	25	6	158	100	...	...	91	...	52	...	...	73	.....	394	
															78								
Canyan Leigh	1,080	.....	...	...	...	...	...	13	...	...	13	10	...	...	...	...	...	..	...	.....	.....	10	
Capertee	12,780	635	521	149	107	...	...	150	36	21	207	60	...	...	...	...	...	...	...	.....	.....	60	At Railway Station.
Cape St. George (Jervis Bay.)	.....	247	...	...	...	...	...	.....	13	...	13	91	...	...	...	...	...	...	...	.....	.....	91	At Light-house.
Captain's Flat.....	19,570	1,211	870	59	49	162	68	220	73	36	329	100	...	...	...	...	52	...	...	2	26	180	Rented.
Carcoar.....	78,600	1,880	632	515	991	254	131	537	125	20	682	236	...	180	...	...	52	...	...	4	.....	472	Govt. building.
Carcoar Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	....	At Railway Station.
Cardiff	2,190	.....	...	...	...	...	...	32	...	...	32	13	...	...	...	...	...	...	...	10	.....	23	
Cargo	12,700	470	459	122	56	42	12	156	34	19	209	140	26	...	...	...	...	...	...	3	.....	169	Govt. building.
Carinda[12]	5,110	350	...	...	...	...	...	161	25	...	186	44	...	...	..	...	...	...	...	.....	.....	44	
Carlingford	8,790	382	57	99	68	...	...	63	14	4	81	51/10/-	...	...	...	...	...	...	...	78	.....	129/10/-	
Carlingford Railway Station.	.....	542	...	...	...	...	...	.....	17	...	17	...	...	...	...	...	...	...	...	.....	... ..	.....	At Railway Station.
Carlton	20,030	271	...	...	...	...	...	60	9	2	71	65	...	...	...	...	...	...	...	16	52	133	Rented.
Carnsdale.....	1,690	.....	...	...	...	...	...	20	...	...	20	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Carrathool	29,230	2,770	619	177	172	205	63	359	157	30	546	120	...	...	...	...	26	...	...	23/10/-	.....	169/10/-	Govt. building.
Carrick..	4,260	.....	...	...	...	...	...	34	...	...	34	18	...	...	...	...	...	...	...	.....	.....	18	
Carrington	68,860	1,108	405	120	247	377	146	387	61	23	471	160	100	...	2 at 52	...	52	...	...	.....	50	466	Rented.
Carroll	9,710	699	133	20	24	45	25	76	56	8	140	89	...	...	...	...	...	...	...	.....	.....	89	
Carrow Brook	1,020	...	...	...	...	...	...	12	...	..	12	10	...	...	...	...	...	...	...	.....	.....	10	
Casino	93,230	4,706	981	351	446	180	83	631	343	44	1,018	254	55	91	78	...	39	...	...	29	.....	624	Govt. building.
														78									
Cassilis	24,430	1,949	491	186	129	134	36	342	116	26	484	209	65	...	...	...	...	...	...	4	.....	278	do
Castle Hill	25,980	280	...	...	...	...	...	83	14	...	97	58/10/-	...	...	...	...	...	...	...	.....	.....	58/10/-	
Castle Mountain...	1,680	.....	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Castlerag	1,130	17	...	...	...	...	...	29	1	...	30	15	...	...	...	...	...	...	...	.....	.....	15	
Castlereagh	3,330	.....	...	...	...	...	...	59	...	...	59	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Cathcart	4,340	327	...	...	...	...	...	68	18	...	86	48	...	...	...	...	...	...	...	.. ...	.....	48	
Catherine Hill Bay	12,100	703	394	37	37	100	34	96	45	24	165	100	...	...	...	...	...	...	...	10	26	136	Rented.
Cavan	1,840	.. ...	..	...	...	...	...	3	...	...	3	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Cedar Party Creek	1,950	.....	...	...	...	..	...	14	...	...	14	10/10/-	..	...	...	...	...	...	...	.....	.. ...	10/10/-	
Central Colo	710	.....	...	...	...	...	..	12	...	...	12	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Central M'Donald	2,040	.....	...	...	...	...	...	39	...	...	39	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	At Court-house.
Cessnock	7,950	473	182	40	78	...	...	77	27	6	110	58	...	...	...	...	...	...	...	.....	26	84	Rented.
Charlestown	10,970	338	146	162	196	100	65	75	16	9	100	130	...	...	52	...	26	...	...	3	30	241	do
Chatsbury	1,470	.....	...	...	...	...	...	33	...	...	33	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Chatswood	*a*	408	...	...	...	...	...	34	14	...	48	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Chatsworth Island ..	18,350	948	354	44	50	159	48	186	54	16	256	110	78	...	...	...	...	...	...	3/10/-	.....	191/10/-	Govt. building.
Cheeseman's Creek ..	2,760	.....	...	...	...	...	...	23	...	...	23	21/10/-	..	...	...	...	...	...	...	.....	.....	21/10/-	
Chinderah.....	.....	250	...	...	...	...	...	... ..	15	...	15	26	...	...	...	...	...	...	...	.....	.. ...	26	
Clarence Town ...	21,100	1,074	293	136	189	139	84	195	66	13	274	160	65	...	...	...	...	...	...	4/10/-	.....	229/10/-	Govt. building.
Clarence Tunnel ...	2,260	43	...	...	...	...	...	13	2	...	15	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Clear Creek.....	1,490	.....	...	...	...	...	...	2	...	...	2	10	...	...	...	...	...	...	...	.....	.....	10	
Clifton	23,760	558	236	78	189	121	83	233	27	17	277	100	...	...	...	...	52	...	...	15	.. ...	167	Provided free by Clifton Colliery Co.
Clunes[13]	4,860	277	108	26	16	32	14	52	16	5	73	40	...	...	...	...	...	...	...	.....	.....	40	
Clybucca	2,960	.. ...	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	

Cobar	131,230	15,191	4,355	752	1,012	1,433	537	1,951	1,010	176	3,137	326	130	160	78	...	26	...	...	100	.....	950	Govt. building.
													78		52								
Cobargo	40,590	1,889	760	92	239	178	73	294	127	29	450	160	...	140	...	...	52	...	...	40	.....	392	do
Cobbadah	9,780	.....	...	...	...	...	...	80	...	...	80	34/10/-	...	...	...	...	...	...	...	28	.....	62/10/-	
Cobbitty	3,360	... ...	...	...	...	...	...	58	...	...	58	18	...	...	...	...	...	...	...	.....	.....	18	
Cobbora	16,600	786	446	39	39	45	17	185	47	18	250	150	78	...	...	...	...	...	...	29	20	277	Rented.
Cobham Lake	6,400	.....	..	...	...	...	...	13	...	...	13	13/10/-	...	...	...	...	...	...	...	.....	.. ...	13/10/-	
Cockle Creek	5,030	134	...	...	...	...	...	17	9	...	26	20	...	...	...	...	...	...	...	.....	.....	20	At Railway Station.
Cocumbark	1,190	.....	...	...	...	...	...	12	...	...	12	14/10/-	...	...	...	...	...	...	...	.....	.. ...	14/10/-	
Codrington	2,720	.....	...	...	...	..	...	30	...	...	30	16	...	...	...	...	...	...	...	.....	.....	16	
Coff's Harbour	9,010	983	311	89	57	31	15	114	59	13	186	100	...	...	...	...	...	...	...	2	30	132	Rented.
Coff's Harbour Jetty.	.....	95	...	...	...	...	...	.....	6	...	6	12	...	...	...	...	...	...	...	.....	.....	12	
Colane	1,190	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Coldstream	1,050	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	.....	.....	10	
Colinton	3,490	.....	...	...	...	...	...	48	...	...	48	11/10/-	...	...	...	...	...	...	...	26	.....	37/10/-	
Collarenebri	16,920	3,852	662	77	53	99	52	359	256	25	640	130	78	...	...	...	...	...	...	3	52	263	Rented.
Collector	12,760	.....	215	24	54	...	...	102	...	9	111	32/10/-	...	...	...	...	...	...	...	.....	.....	32/10/-	
Collie	9,100	.....	...	...	...	...	...	26	...	...	26	21/10/-	...	...	...	...	...	...	...	.....	.....	21/10/-	
Colly Blue	1,350	.....	...	...	...	...	...	29	...	2	31	11	...	...	...	...	...	...	...	.....	.....	11	
Colo Creek[14]	390	.....	..	...	...	...	...	1	...	...	1	10	...	...	...	...	...	...	...	12	.....	22	
Colo Vale	4,120	127	...	...	...	...	...	38	6	1	45	17	5	...	...	...	...	...	...	.....	.....	22	At Railway Station.
Colyton	2,030	.....	...	...	...	...	...	13	...	...	13	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Come-by-Chance[15]	10,750	1,532	410	12	21	54	3	177	95	17	289	100	...	...	...	...	...	...	...	24	.....	124	Free, by Guarantors.
Comerong	1,120	.. ...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Comleroy Road	6,110	.....	...	...	...	...	...	61	...	...	61	15	...	...	...	...	...	...	...	.....	.....	15	
Como	1,340	.....	...	...	...	..	...	21	...	...	21	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Comobella	920	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	..	.....	.....	10	
Conargo	13,730	1,056	169	19	22	59	25	115	69	11	195	100	...	...	...	...	...	...	...	22	25	147	Rented.
Concord	30,450	909	224	86	207	477	154	198	37	12	247	130	...	...	2 at 78	...	26	...	...	73	45/10/-	430/10/-	do
Condobolin	180,830	5,399	1,112	333	358	336	137	999	359	58	1,416	263	...	130	78	...	52	...	...	58	.....	701	Govt. building.
														120									
Conjola	8,250	.....	...	...	...	...	...	40	...	...	40	35	...	...	...	...	...	...	...	.....	.....	35	
Coogee	5,040	909	...	...	...	...	...	112	35	...	147	92	...	...	...	...	52	...	...	4	46/16/-	194/16/-	Rented.
Cookardinia	5,340	.....	...	...	..	...	...	16	...	...	16	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Coolabah	13,480	833	743	66	50	131	33	269	47	29	345	29	...	50	...	...	...	...	...	.....	.....	79	At Railway Station.
Coolac	15,040	673	282	34	50	...	...	154	40	17	211	33	...	...	...	...	...	...	...	.....	.....	33	do
Coolah	19,110	1,407	328	42	63	144	59	248	90	21	359	200	91	...	...	...	52	...	...	5	.....	348	Govt. building.
Coolaman	80,370	1,809	1,187	165	147	132	68	703	107	51	861	100	...	...	...	..	52	...	...	32/10/-	.....	184/10/-	do
Coolangatta	11,080	.....	153	11	20	18	14	93	...	6	99	19/10/-	...	...	...	...	...	...	...	.....	.....	19/10/-	
Coolongolook	3,180	.....	...	...	...	...	...	62	...	...	62	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Cooma	173,170	6,234	1,306	640	1,142	513	233	1,293	443	77	1,813	227	2 at 160	...	105	...	2 at 52	150	...	79	.....	985	Govt. building.
Cooma Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Coonabarabran	40,470	3,161	901	227	293	278	91	506	204	40	750	254	20	130	...	...	26	...	...	23	.....	453	Govt. building.
Coonamble	159,630	9,238	2,172	514	388	484	199	1,304	651	83	2,038	263	78	120	78	...	52	...	...	70	.....	661	do
Coopernook	12,430	744	290	56	69	53	12	138	44	12	194	87/10/-	...	...	...	..	...	...	...	3	26	116/10/-	Rented.
Coorabell Creek	3,460	35	..	...	...	...	...	18	2	...	20	41	...	...	...	...	...	...	...	.....	.....	41	
Cooranbong	15,490	333	273	78	119	45	41	73	21	12	106	100	13	...	...	...	...	...	..	2/8/-	.....	115/8/-	Govt. building.
Cootamundra	174,610	8,414	1,511	1,141	1,674	815	591	1,585	542	100	2,227	326	160	160	65	...	2 at 52	150	...	88/10/-	.....	1,283/10/-	do
													100	130									
Cooyal	7,590	.....	...	...	...	...	...	25	...	...	25	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Copeland North	7,370	523	350	89	406	32	32	83	31	17	131	120	...	...	...	...	26	...	...	2	.....	148	Govt. building.
Copmanhurst	3,380	272	...	...	...	...	...	25	17	...	42	37	...	...	...	...	...	...	..	.....	.....	37	
Coraki, Richmond River.	40,220	3,241	666	138	220	106	64	241	224	24	489	209	20	91	...	...	52	...	...	5	.....	377	Govt. building.
Coramba	4,330	.....	...	...	...	...	...	45	...	...	45	11	...	...	...	...	...	...	...	.....	.....	11	
Cordeaux[16]	1,210	.....	...	...	...	...	...	23	...	...	23	10	...	...	...	...	...	...	...	.....	.....	10	
Corindi—Clarence.	1,260	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	.....	.....	10	
Corowa	150,150	5,819	1,070	319	503	395	211	1,273	378	55	1,706	236	91	100	145	...	52	...	...	41/10/-	.....	691/10/-	Govt. building.
													26										
Corrimal	12,000	.....	...	...	...	...	...	23	...	...	23	10	...	...	...	...	...	...	...	.. ...	.....	10	At Railway Station.

a Included in Willoughby return.

NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Corrowong	2,330	.....	...	...	...	...	...	28	...	...	28	16	...	...	...	...	...	...	...	.....	.....	16	
Corunna	3,740	.....	...	...	...	...	...	37	...	1	38	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Courabyra[17]	1,290	.....	...	...	...	...	...	18	...	...	18	10	...	...	...	...	...	...	...	.....	.....	10	
Coutt's Crossing	3,970	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Cow Flat	3,430	.....	59	14	10	1	4	20	...	2	22	33/10/-	...	...	...	...	...	...	...	.....	.....	33/10/-	
Cowlong	680	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Cowra	144,990	5,949	1,608	619	1,065	574	373	1,407	368	89	1,864	236	...	218 140	105	...	52	...	...	44/10/-	.....	795/10/-	Govt. building.
Cowra Creek[7]	690	.....	...	...	...	...	...	7	...	...	7	10	...	...	...	...	...	...	...	.....	.....	10	
Cowra Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Cox's River	1,100	.....	...	...	...	...	...	18	...	...	18	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Craigie	6,720	192	150	9	9	...	...	41	11	7	59	30	...	...	...	...	...	...	...	.....	.....	30	
Cranbury	1,910	.....	...	..	...	...	...	16	...	...	16	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Croki, Manning River	13,280	808	243	133	54	48	18	92	41	10	143	150	...	...	...	...	...	...	...	3/10/-	26	179/10/-	Rented.
Crookhaven Heads	.....	30	...	...	...	...	...	.....	2	...	2	26	...	...	...	...	...	...	...	.....	.....	26	At Pilot Station.
Crookwell	71,290	2,233	877	253	376	317	99	620	135	42	797	227	...	100	...	...	52	...	...	3	.....	382	Govt. building.
Croome	1,260	.....	...	...	...	...	...	20	...	...	20	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Cross Roads	2,900	.....	...	...	...	...	...	14	...	...	14	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Crowdy Head	.....	*	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Pilot Station.
Croydon	95,650	2,060	312	495	914	707	474	535	76	23	634	150	91	...	2 at 110	...	2 at 52	...	...	121/10/-	.....	686/10/-	Govt. building.
Crudine	1,850	.....	...	..	...	...	...	23	...	...	23	19/10/-	...	...	...	...	...	...	...	.....	.....	19/10/-	
Cudal	25,100	1,022	515	116	161	168	78	313	61	24	398	190	20	...	...	...	26	...	...	3	.....	239	Govt. building.
Cuddell Siding[18]	1,030	.....	...	...	...	...	...	7	...	...	7	10	...	...	...	...	...	...	...	.....	.....	10	
Cudgebegong Creek	760	.....	...	...	...	...	...	25	...	...	25	10/10/-	...	...	...	...	...	...	...	15	.....	25/10/-	
Cudgegong	10,560	.....	105	11	14	...	..	55	...	4	59	23	...	...	...	...	...	...	...	.....	.....	23	
Cudgen	8,840	1,196	440	85	28	235	73	115	79	22	216	100	...	...	...	...	52	...	...	2	.....	154	Govt. building.
Culcairn	23,630	1,164	189	44	60	67	22	219	71	14	304	70	...	...	...	...	...	...	...	.....	.....	70	At Railway Station.
Cullenbone	1,430	.....	...	...	...	...	...	33	...	...	33	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Cullen Bullen	8,030	.....	197	17	20	...	...	106	...	7	113	46/10/-	...	...	...	...	...	...	...	.. ...	.. ...	46/10/-	
Cullinga	3,270	.....	...	...	...	...	...	32	...	...	32	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Cumnock	19,920	600	327	53	59	37	18	159	36	12	207	31	...	26	...	...	...	...	...	.....	.....	57	
Cundletown	17,000	688	326	89	100	117	46	139	41	13	193	218	78	...	...	...	...	...	...	8/10/-	.....	304/10/-	Govt. building.
Cunningham	5,860	.....	...	...	...	...	...	66	...	...	66	28	...	...	...	...	...	...	...	.....	.....	28	
Curlewis	11,010	377	178	24	28	34	13	103	20	10	133	33	...	...	...	...	...	...	...	.....	.. ...	33	At Railway Station.
Currabubula	52,450	425	278	38	114	...	...	216	23	15	254	27	...	...	...	...	...	...	...	.....	.....	27	do
Currawang	2,010	.....	144	24	8	...	...	28	...	5	33	20	...	...	...	...	..	...	...	.....	.....	20	
Curraweela	2,340	.....	...	...	...	...	...	14	...	...	14	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Cuttabri	2,470	.....	...	...	...	...	...	15	...	...	15	16	...	...	...	...	...	...	...	.....	.....	16	
Dalmorton	8,800	512	199	37	24	13	20	73	33	8	114	120	26	...	...	...	...	...	...	3	40	189	Rented.
Dalton	14,680	255	254	64	100	55	31	132	15	11	158	100	...	...	...	...	...	...	...	1/10/-	13	114/10/-	do
Dalwood	1,110	.....	..	...	...	...	...	12	...	...	12	11	...	...	...	...	...	...	...	.....	... ..	11	
Dandaloo	28,060	1,539	290	32	34	114	21	319	96	19	434	130	10	...	...	...	...	...	...	2	40	182	Rented.
Dapto	26,990	1,142	449	222	240	...	...	207	65	18	290	91	...	...	...	...	...	...	...	.....	.....	91	
Dapto Railway Station.	.....	.....	...	...	...	...	...	.. ...	...	...	...	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Darby's Falls	900	.. ...	...	...	...	...	...	11	...	..	11	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Darke's Forest	300	.. ...	...	...	...	...	...	13	...	...	13	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Darlington	209,640	2,266	430	577	1,219	1,804	967	445	103	27	575	160	...	120	...	...	2 at 52	...	...	.....	98	482	Rented.
Darlington Point	26,590	644	329	30	29	...	...	204	40	16	260	150	...	...	...	...	...	...	...	2/10/-	.....	152/10/-	Provided by Postmaster.
Darlington Railway Station.	910	218	...	...	...	...	...	35	13	...	48	24	...	...	...	...	...	...	...	.. ...	.....	24	At Railway Station.
Davies' Creek	2,290	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Daviesville	24,290	.. ...	603	30	50	191	66	145	...	28	173	28	...	...	...	...	...	...	...	.....	.. ...	28	

Davis Town	4,400	.....	...	...	...	...	...	47	..	...	47	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Day Dream	1,070	... ..	...	...	...	...	...	18	...	...	18	18	...	...	...	...	...	...	...	.....	.....	18	
Daysdale[19]	9,590	625	...	...	...	...	...	80	39	...	119	26	...	12	...	...	...	...	...	.....	.....	38	Free, by guarantors.
Deep Creek	1,280	.....	...	...	...	...	...	20	...	...	20	15	. .	...	...	...	...	...	...	.....	.....	15	
Deepwater	90,400	1,138	400	145	142	56	33	139	70	19	228	140	26	...	...	...	52	...	...	4	50	272	Rented.
Delegate	21,740	1,798	597	109	119	97	13	296	115	23	434	150	91	...	...	...	...	...	...	29	14	284	do
Demondrille	1,580	14	...	...	..	...	...	4	1	...	5	10	...	...	...	...	...	...	...	.....	.....	10	
Deniliquin	251,750	13,396	2,460	650	983	1,232	429	2,283	1,006	144	3,433	254	140	236	91	78	3 at 52	150	...	171/7/6	.....	2,712/7/6	Govt. building.
												335	100	180									
														170									
														2 at 160									
														140									
														100									
														91									
Denman	16,660	911	261	46	72	78	35	270	55	13	338	150	78	...	...	...	...	...	...	4	30	262	Rented.
Devlin's Siding	13,390	.....	..	...	...	...	...	12	...	...	12	15/10/-	...	...	...	...	...	...	...	... ..	.....	15/10/-	
Dora Creek	4,423	.....	156	447	180	33	15	94	...	6	100	27/10/-	...	...	...	...	...	...	...	.....	.....	27/10/-	
Dorrigo[20]	.....	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Douglas	8,440	198	...	...	...	...	...	23	10	...	33	22	. .	...	...	...	...	...	...	.....	.....	22	At Railway Station.
Douglas Gap	500	.....	...	...	...	...	...	.....	...	...	.....	10/10/-	...	...	...	..	...	...	...	30	.....	40/10/-	
Downside	770	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Drake	24,650	1,444	581	143	88	127	90	242	88	26	356	150	...	78	...	...	...	...	...	7	39	274	Rented.
Dripstone	7,660	100	135	18	33	...	...	59	6	7	72	33	...	...	...	...	...	...	...	.....	.....	33	At Railway Station.
Drummoyne	33,000	1,226	135	216	251	385	200	300	39	6	345	130	...	...	100	...	52	...	...	49/10/-	39	370/10/-	Rented.
Dry Plain	730	.. ...	...	...	...	...	...	17	...	...	17	10/10/-	...	...	...	...	...	...	...	18	.....	28/10/-	
Dubbo	419,500	14,131	3,498	2,482	3,022	1,660	973	2,323	912	178	3,413	353	160	170	135	...	2 at 52	150	...	177/15/-	.....	1,852/15/-	Govt. building.
													130	130	39	...	26						
													78	2 at 100									
Dubbo Railway Station.	... ..	394	...	...	...	...	...	. ....	22	...	22	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Duckmaloi	1,050	.....	..	...	...	...	...	22	...	...	22	10/10/-	...	...	...	...	..	...	...	.....	.....	10/10/-	
Dudauman	1,300	.... .	..	...	. .	...	...	24	...	...	24	11	. .	...	...	...	...	...	...	.....	.. ...	11	
Dudley	5,690	. . .	...	..	...	...	...	37	...	...	37	13/10/-	...	...	..	...	...	...	...	.....	.....	13/10/-	
Dulwich Hill	61,400	2,517	305	299	695	844	566	412	95	18	525	140	...	100	105	..	52	. .	...	73	78	548	Rented.
Dumaresq	4,830	34	59	3	6	14	6	48	2	2	52	•26	...	...	...	...	...	...	...	... ..	.....	26	At Railway Station.
Dunbar's Creek	860	.....	...	...	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Dunbible Creek	1,660	95	...	...	...	...	...	.....	6	...	6	27	...	...	...	...	...	...	...	.. ...	.....	27	
Dundas	8,960	.....	...	...	...	...	...	68	...	..	68	27	..	...	...	...	...	...	...	.. ...	.....	27	
Dundee	5,990	101	70	8	12	...	...	65	6	6	77	22	...	...	...	...	...	...	...	.....	.....	22	
Dundee Railway Station.	3,800	.. ...	...	...	...	...	...	24	...	...	24	13	...	...	...	...	...	...	...	.....	.....	13	At Railway Station.
Dungog	87,820	3,029	648	246	405	166	73	617	203	33	853	227	91	...	91	...	...	150	26,cadet	49/10/-	.....	634/10/-	Govt. building.
Dungowan	7,420	.....	...	...	...	...	...	93	...	...	93	22	...	..	...	...	...	...	...	.....	.....	22	
Dunkeld	1,130	.....	...	...	...	...	..	12	...	...	12	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Dunmore	2,900	.....	...	...	...	...	...	21	...	...	21	10	...	...	...	...	...	...	...	.....	... ..	10	Railway Station.
Dunoon	2,340	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Dural	9,380	326	83	55	48	24	21	93	18	4	115	100	...	...	...	...	52	...	...	1/10/-	45	198/10/-	Rented.
Duramana	570	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Duri	990	.....	...	...	...	...	.	8	...	...	8	10/10/-	...	...	...	...	...	...	...	.....	... ..	10/10/-	
East Balmain	18,610	1,484	254	101	511	532	251	215	57	12	284	160	78	...	...	...	39	...	...	... ..	75	352	Rented.
East Carlingford	12,100	.....	...	...	...	...	...	142	...	...	142	24	...	...	15	...	...	...	...	.... .	.....	39	
Eastern Creek	2,430	.....	...	...	...	..	...	12	...	...	12	14/10/-	..	...	...	...	...	...	...	.....	.....	14/10/-	
East Greta[17]	1,020	.....	...	...	...	...	...	8	...	...	8	10	...	...	...	...	...	...	...	.....	.. ...	10	
East Kangaloon	4,110	.....	...	...	...	...	...	58	...	...	58	19/10/-	...	...	...	...	...	...	..	.....	.....	19/10/-	
East Kempsey	4,440	.. ..	118	17	34	...	...	54	...	5	59	28/10/-	..	...	...	...	...	...	...	3	.....	31/10/-	
East Maitland	233,180	3,826	861	518	870	360	217	810	247	45	1,102	281	140	..	115	...	52	...	10	148/10/-	.....	996/10/-	Govt. building.
													120	...	78				Receiver clearer.				
															52								
East Maitland Railway Station.	.....	.....	...	..	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
East Raleigh	1,390	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
East Wardell	762	.....	...	...	...	...	...	18	...	...	18	17	...	..	...	...	...	...	...	.. ...	.....	17	

* Telegraph returns included in Harrington.

NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in charge	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Eastwood	11,180	.....	...	...	...	...	...	34	...	...	34	13	...	..	...	...	...	..	...	.....	.....	13	
Eatonsville	1,440	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Eauabalong	12,490	1,135	226	54	27	44	27	123	77	14	214	218	Nil.	91	...	...	...	...	...	23	40	372	Rented.
Ebenezer	2,320	.....	...	...	...	...	...	39	...	...	39	15	...	...	...	...	...	...	...	.....	.....	15	
Eccleston	2,480	.....	...	...	...	...	...	34	...	...	34	19	...	...	...	...	...	...	...	.....	.....	19	
Eckersley	510	... ..	...	...	...	...	...	5	...	...	5	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Eden	20,290	2,163	447	145	194	108	35	191	131	23	345	190	...	110	...	...	52	...	...	3	.....	355	Govt. building.
Edgecliff	103,020	5,927	571	227	764	816	410	1,139	278	40	1,457	180	91	150 78	2 at 170 160 135 130 120 115	65	2 at 52	...	3 at 78 Switchboard Attendants.	152	.....	2,054	do.
Eglinton	2,560	.....	...	...	...	...	...	.....	...	...	.....	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Elderslie	700	.....	...	...	...	...	...	2	...	...	2	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Elizabeth-street South	59,413	3,556	685	335	1,104	1,760	722	734	182	57	973	160	...	100	...	...	52 26	...	...	.....	90	428	Rented.
Ellalong	4,400	.....	...	...	...	...	...	85	...	...	85	15/10/-	...	..	...	...	...	...	...	.. ...	.....	15/10/-	
Ellenborough	3,480	.....	...	...	...	...	...	24	...	...	24	20	...	...	...	...	...	...	...	.....	.....	20	
Elsmore	3,960	.....	...	...	...	...	...	45	...	...	45	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Emera'd Hill	1,720	.....	...	...	...	...	...	21	...	...	21	11	...	...	...	...	...	...	...	.....	.....	11	
Emmaville	33,840	1,724	826	292	321	234	126	462	102	41	605	200	20	...	...	...	52	...	...	7	.....	279	Govt. building.
Emu	4,980	.....	116	253	...	...	...	37	...	...	37	37	...	...	...	...	...	...	...	.....	.....	37	
Emu Plains	6,900	286	...	...	299	...	...	.....	15	5	20	40	65 10	...	...	...	...	...	...	.....	.....	115	At Railway Station.
Enfield	52,840	1,445	202	185	258	349	159	237	57	11	305	140	...	...	100 78	..	52	...	...	135/10/-	65	570/10/-	Rented.
Enmore	96,320	4,843	623	441	1,380	1,307	789	816	191	34	1,041	218	65	...	...	...	52 26	...	...	9/2/6	.. ...	370/2/6	Govt. building.
Enngonia	11,200	1,467	229	23	18	24	13	149	96	15	260	100	...	...	...	...	...	...	...	23	52	175	Rented.
Ennis	2,600	.....	...	...	...	...	...	11	...	...	11	21/10/-	..	...	...	...	...	...	...	.....	.. ...	21/10/-	
Erina	2,930	.....	...	...	...	...	...	23	...	...	23	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Ermington	7,590	316	...	...	...	...	...	59	10	...	69	58/10/-	...	...	78	...	...	...	...	36/10/-	.....	173	
Erskineville	62,650	1,094	470	307	552	1,636	622	247	39	20	306	160	...	110	...	...	52	...	...	.....	61	383	Rented.
Eskbank	.....	(a)	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Eskdale	650	.....	...	...	...	...	...	12	...	...	12	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Esrom	11,790	.....	...	...	...	...	...	11	...	...	11	44	...	...	...	...	...	...	...	20	.....	64	
Essington	1,820	... ..	...	...	..	...	...	19	...	...	19	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Eugowra	11,370	659	394	57	132	64	18	154	38	18	210	180	15	...	...	...	...	...	...	3/10/-	.....	198/10/-	Govt. building.
Eulowrie	2,330	.....	...	...	...	...	...	31	...	...	31	15/10/-	...	..	...	...	...	...	...	.....	.....	15/10/-	
Eureka	1,900	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Euriowie	29,610	890	...	...	...	...	...	99	60	...	159	110	...	...	...	...	...	...	...	53	20/16/-	183/16/-	Rented.
Eurobodalla	5,450	323	96	9	30	...	...	28	20	3	51	59	...	...	...	...	...	...	...	.....	.....	59	
Eurongilly	8,430	.....	...	...	...	...	...	26	...	...	26	19/10/-	...	...	...	...	...	...	...	.....	.. ...	19/10/-	
Eurunderee	2,600	.....	...	...	...	...	...	18	...	...	18	18/10/-	...	...	...	...	...	...	...	.....	.....	18/10/-	
Euston	20,960	1,820	561	75	44	67	23	147	128	27	302	190	...	180	...	...	...	...	...	67/17/6	.....	437/17/6	Govt. building.
Evans' Plains	2,780	.....	...	...	...	...	...	13	...	...	13	13	...	...	...	...	...	...	...	.....	.....	13	
Exeter[21]	8,830	173	132	30	38	42	10	75	10	7	92	15	...	...	...	...	...	...	...	... ..	.....	15	At Railway Station.
Failford	3,650	.....	...	...	...	...	...	55	...	...	55	14	...	...	...	...	...	...	...	.....	.....	14	
Fairfield	28,760	414	...	...	...	...	...	43	23	...	66	22	...	...	...	...	...	...	...	.....	.....	22	At Railway Station.
Fairview	590	.....	...	...	...	...	..	14	...	...	14	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Fairy Meadow	2,420	.....	...	...	...	...	...	3	...	...	3	25	...	...	...	...	...	...	...	.....	.....	25	
Falls Creek	3,370	.....	...	...	...	...	...	15	...	..	15	31	...	...	...	...	...	...	...	.....	.....	31	
Farley	3,400	91	...	...	...	...	...	4	4	...	8	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	At Railway Station.

Fassifern	1,090	61	...	...	...	...	...	12	3	...	15	11	...	...	...	...	...	...	...	.....	.. ...	11	At Railway Station.
Faulconbridge	2,550	.....	...	...	...	...	...	9	...	...	9	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Fernmount	24,790	1,538	568	184	140	78	13	169	101	23	293	200	...	91	...	...	26	...	...	3/10/-	40	360/10/-	Rented.
Ferrier's	5,560	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Fifield	5,740	.....	...	...	...	...	...	103	...	1	104	10	...	...	...	...	...	...	...	.....	.....	10	
Fig-tree	13,600	.....	...	...	...	...	...	35	...	...	35	35/10/-	...	...	...	...	...	...	...	.....	.....	35/10/-	
Fingal Heads	.....	204	...	...	...	...	...	.. ...	17	...	17	...	...	...	...	...	...	...	...	.....	.....	.....	At Pilot Station.
Finley	12,310	791	...	...	...	...	...	67	48	1	116	18/10/-	...	26	...	...	...	...	...	.....	.....	44/10/-	Free by Guarantors.
Fish River Creek	1,340	.....	..	...	...	...	...	23	...	...	23	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Fitzgerald's Valley	710	.....	...	..	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	..	.....	... ..	10/10/-	
Five Dock	36,690	714	62	68	133	150	110	89	23	4	116	82	..	...	120	78	...	...	...	95	25	400	Rented.
Forbes	525,540	15,216	2,855	994	1,584	737	497	2,186	1,031	128	3,345	263	209 110 91 52	150 78	120	...	2 at 52	150	...	129/10/-	.....	1,456/10/-	Govt. building.
Ford's Bridge	6,460	800	172	6	10	11	12	93	48	8	149	160	...	...	...	...	...	..	...	21/10/-	.....	121/10/-	Free by Guarantors.
Forest Reefs	9,430	.....	140	133	82	..	...	70	...	8	78	36/10/-	...	...	...	...	...	...	...	.....	.....	36/10/-	
Forster	12,650	1,695	296	149	125	81	25	68	96	15	179	160	...	...	...	...	52	...	...	3	.....	215	Govt. building.
Fox Ground	1,790	.....	...	...	...	...	...	23	...	...	23	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Frederickton	14,050	599	175	39	44	...	...	71	37	8	116	160	78	...	...	...	..	...	...	4/10/-	52	294/10/-	Rented.
Freeman's Reach	3,440	.....	...	...	..	...	...	24	..	...	24	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Freemantle	1,300	.....	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Frogmoor	5,240	.....	255	30	7	...	...	61	...	10	71	23/10/-	...	...	..	...	...	...	...	.....	.....	23/10/-	
Fullerton	2,280	.....	...	...	...	...	...	28	...	...	28	12	...	...	...	...	...	...	...	.....	.....	12	
Gabo Island[22]	.....	335	...	...	...	...	...	... ..	5	...	5	26	...	...	...	...	...	...	...	.....	.....	26	At Pilot Station.
Galley Swamp	5,520	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Galong	15,100	.....	266	14	28	10	12	117	9	11	137	23	...	...	...	...	...	...	...	.....	.....	23	At Railway Station.
Galston	6,700	172	57	66	113	...	...	60	...	2	62	22	..	...	...	...	...	...	...	.....	.....	22	
Ganmain[1]	8,380	.....	127	9	25	...	...	87	...	8	95	20	...	...	...	...	...	...	...	.....	... ..	20	
Gannon's Creek	1,060	.....	...	...	...	...	...	9	...	...	9	10	...	...	...	...	...	..	...	.....	.....	10	
Garangula	8,560	.....	349	65	64	...	...	65	...	17	82	15	...	...	...	...	...	...	...	.....	.....	15	
Garra	810	.....	...	...	...	...	...	16	...	...	16	16	...	..	...	...	...	...	...	.....	.....	16	
Gentleman's Halt	1,140	.....	...	...	...	...	...	15	..	...	15	11	...	...	...	...	...	...	...	.....	.....	11	
George's Plains	9,410	90	...	...	...	...	...	65	5	...	70	35	...	...	...	...	...	...	...	.....	.....	35	
George-st. North	420,180	7,432	1,094	139	443	1,230	446	881	777	68	1,726	218	...	140 130	...	...	2at52	...	...	40	650	1,282	Rented.
George-st. West	303,480	6,291	1,014	876	2,633	3,358	1,851	1,506	283	59	1,848	263	110	160 120	...	...	2at52	...	...	.....	130	887	do
German Creek	3,050	.....	...	...	...	...	...	47	...	...	47	12	...	...	...	...	...	...	...	12	.....	24	
German's Hill	1,090	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Germanton	72,990	2,349	556	186	288	178	71	601	144	30	775	190	52	...	...	...	26	...	...	5	.....	273	Govt. building.
Gerogery	12,130	457	217	13	41	47	12	98	30	11	139	31	...	...	...	...	...	...	...	.....	.....	31	At Railway Station.
Gerringong	26,500	698	252	78	114	166	55	187	37	13	237	130	91	...	...	...	...	...	...	3	26	250	Rented.
Gerrymberryn	780	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Geurie[23]	10,670	303	171	16	34	61	16	103	17	11	131	17	...	...	...	...	...	...	...	.....	.....	17	At Railway Station.
Ghinni Ghinni	1,820	.....	...	...	...	...	...	24	...	...	24	19	...	...	...	...	...	...	...	.....	.. ...	19	
Gilgai	2,350	.....	..	...	...	...	...	14	...	...	14	15	...	...	...	...	...	...	..	.....	.....	15	
Gilgandra	42,350	1,911	586	71	62	36	13	647	114	27	788	120	91	78	...	...	...	...	...	43/10/-	52	384/10/-	Rented.
Gilgunnia	11,600	... ..	...	...	...	...	...	47	...	...	47	19	...	...	...	...	...	...	...	.....	.....	19	
Gilmore	5,590	.....	...	...	...	...	...	11	...	...	11	14/10/-	...	...	..	...	...	...	...	.....	.....	14/10/-	
Gingerra Station	570	.....	...	...	...	...	...	5	...	...	5	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Gingkin	2,680	.....	...	...	...	...	...	29	...	...	29	14	...	...	...	...	...	...	...	.....	.....	14	
Ginninderra	8,870	476	132	35	57	32	14	148	27	10	185	100	13	...	...	...	...	...	...	1/10/-	5	119/10/-	Rented.
Girilambone	22,480	611	437	58	86	69	14	201	36	19	256	39	...	...	...	...	...	...	...	.....	.....	39	At Railway Station.
Girilambone Mine	5,300	.....	...	...	...	...	...	59	...	...	59	10	...	...	...	...	...	...	...	15	.....	25	
Gladesville	69,920	1,399	205	97	191	93	63	175	54	11	240	63/10/-	...	78	78	...	52	...	...	38/10/-	33/16/-	343/16/-	Rented.
Gladstone	10,080	497	164	77	53	65	45	51	32	8	91	140	...	...	...	...	...	...	...	8	36	184	do.
Glanmire	3,070	.....	...	...	...	...	...	25	...	...	25	25	...	...	...	...	...	...	...	.....	.....	25	
Glasston	1,230	.....	...	...	...	...	...	36	...	...	36	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Glebe	742,600	7,825	856	1,805	3,128	4,165	1,875	1,802	342	60	2,204	180	78	2 at 120	...	...	4 at 52	...	...	23/4/-	.....	729/4/-	Govt. building.
Glen Alice	1,600	.....	...	...	...	...	...	34	...	...	34	15	...	...	...	...	...	...	...	.....	.....	15	

(a) Telegraph returns included in Lithgow. NOTE.—For other references see page 57.

Name of Office	Business transacted							Revenue.				Expenditure											Arrangements as regards Premises
												Salaries											
	No of Letters posted	No of Telegrams transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal.	Telegraphic	Money Order and Postal Note	Total	Officers in Charge	Assistants	Operators	Letter Carriers	Mail Boys	Messengers	Linesmen Repairers	Other Employés	Allowances	Rent of Office	Total	
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Glenbrook	3,970	104						38	6		44	10										10	At Railway Station
Glencoe [21]	6,740	155	142	33	36	35	13	56	9	6	71	29										29	do
Glendon Brook	5,470							63			63	12/10/									.	12/10/-	
Glen Elgin	1,960							26			26	10										10	
Glenhaven	1,000							14			14	10/10/										10/10/	
Glen Innes	164,040	7,091	1,187	1,027	1,603	568	359	1,295	483	62	1,840	299	130	200	115	..	2 at 52	150		114/10/	52	1,445/10/-	Govt building
													91	190									
Glen Innes Railway Station		268							15		15												At Railway Station
Glenmore	2,110							10			10	10/10/										10/10/	
Glen Morrison	2 600							33			33	13/10/										13/10/-	
Glennies Creek	6,400							45			45	25										25	At Railway Station
Glenoak	3,660	60						43	4		47	31/10/-										31/10/	
Glenorie . ..	1,680							24			24	10										10	
Glenquarry	2,960							29			29	12/10/										12/10/	
Glenthorne	1,500							10			10	10/10/										10/10/	
Glen William	1 780							13			13	13/10/										13/10/-	
Gloucester	5 340	705	275	20	48	57	13	69	39	15	123	130		130						29	39	328	Rented
Gocup	1,860							37			37	14										14	
Gollan .	1 680							10			10	10										10	
Golspie	3,160							42			42	16										16	
Gongolgon [24]	6,830	731	149	10	1	45	11	58	45	8	111	70										70	
Goodooga	32,120	4,757	754	104	67	113	60	287	323	33	643	200		120						24		344	Govt building
Goolagong	18,930	623	264	21	31	13	21	119	38	10	167	110								3	26	139	Rented
Goolma	9,400							36			36	16 10/									.	16/10/	
Goolmangar	610							4			4	10										10	
Goombargona	990							15	.		15	13 10/										13/10/	
Goomoorah	1,910							3			3	16										16	
Goonoo Goonoo	7,460		106	10	15	43	11	88		6	94	35										35	
Goorangoola	1,780							40			40	16/10/										16/10/	
Goran Lake	1,200							10			10	10/10/										10/10/	
Gordon	9,940	344	47	61	123			82	13	3	98	27					26					53	At Railway Station
Gosford	67,550	1,646	835	536	888	183	123	465	99	43	607	227	65		39					32		363	Govt building
Gosford Railway Stn		435							24		24												At Railway Station
Gosforth	1,670							2			2	10										10	
Goulburn	916,000	15,301	4,431	6,075	10,299	3,475	1,933	5,086	1,010	258	6 354	380	200	190	2 at 140	65	3 at 52	150	160	204		4,355	Govt building
												335	190	2 at 170	2 at 120		39		Stamper and sorter			
													180	140	110				78				
													140	100	91				Switch board attendant			
													130	91									
													2 at 100	78									
													78										
Goulburn Railway Station [25]		321							18	.	18												At Railway Station
Gouldsville	1,300							6			6	12/10/										12/10 /	
Grabben Gullen	3,310							31			31	14/10/										14/10/-	
Grafton	320,390	12,745	2,001	1,504	1,769	542	241	1,477	957	102	2,536	353	160	190	145		2 at 52	150		192/10/		2,218/10/	Govt building
													110	2 at 180	125		39						
														150									
														140									
Grahamstown	3,750							50			50	11										11	
Graham's Valley	1,110						.	14			14	10/10/										10/10/	
Graman	12,460							90			90	26										26	
Granville		57							3		3	5									21	26	Rented

Granville	232,240	3,750	801	1,010	1,825	1,640	1,033	942	158	49	1,149	190	150 120 110	109	125 2 at 115 91	...	2 at 52	...	65 Porter	229/2/-	.....	1,514/2/-	Govt. building.
Green Cape	970	102	...	...	...	...	...	7	6	...	13	120	...	...	...	...	...	...	...	2	.....	122	At Lighthouse.
Greendale..... ..	4,150	.....	...	...	...	...	...	27	...	...	27	17	...	...	...	...	...	...	...	.....	.....	17	
Greenfield Farm ...	3,050	.....	...	...	...	...	...	6	...	...	6	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Greenhill	6,470	.....	109	21	19	...	...	29	...	4	33	22/10/-	...	...	...	...	...	...	...	.....	.....	22/10/-	
Greenmantle	750	.....	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	..	.....	.....	10/10/-	
Greenridge	3,230	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Green Valley	2,320	.....	...	...	...	...	...	.....	...	...	.....	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Greenwell Point...	6,120	435	266	109	179	109	37	49	24	9	82	42	...	...	...	...	...	...	...	1	.....	43	
Greenwich	4,330	176	...	...	...	...	...	63	7	...	70	28	...	...	...	...	...	...	...	20	.....	48	
Grenfell	116,550	4,432	1,104	343	416	402	174	968	317	58	1,343	190	...	120	105	..	52	...	...	31	.....	498	Govt. building.
Gresford	11,220	567	194	33	51	33	12	196	34	7	237	129	...	...	...	...	...	...	...	2	40	171	Rented.
Greta	47,850	1,166	618	330	630	259	187	253	56	26	335	160	...	78	78	...	...	...	...	41	.....	357	Govt. building.
Greta Railway Stn.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Grogan	2,470	.....	...	...	...	...	...	14	...	...	14	12	...	...	...	...	...	...	...	.....	.....	12	
Grong Grong R'wy St.[26]	10,400	683	435	45	97	16	2	205	40	14	259	23	...	...	...	...	26	...	...	.....	.....	49	At Railway Station.
Grose Vale	4,530	.....	...	...	...	...	...	28	...	...	28	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
"Grosvenor Hotel"	.....	1,311	...	...	...	...	...	.....	85	...	85	78	...	...	...	...	...	...	...	.....	.....	78	
Guildford..... ..	2,840	.....	...	...	...	...	...	39	...	...	39	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Guildford Railway St.	5,530	.....	...	...	...	...	..	22	...	...	22	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Gulargambone.....	13,770	964	450	34	30	44	21	251	58	19	328	150	...	...	...	...	...	...	...	2	40	192	Rented.
Gulgamree[27].....	.....	... ..	...	...	...	...	...	.....	..	...	... ..	10	...	...	...	...	...	...	...	.....	.....	10	
Gulgong	100,170	3,136	1,423	473	573	314	198	778	186	58	1,022	180	91	100	78	..	...	...	...	40/10/-	.....	489/10/-	Govt. building.
Gullen	1,260	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Gum Flat	1,230	.....	...	...	...	...	...	.....	...	...	.....	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Gunbar	13,970	.....	84	26	25	...	...	201	...	10	211	39	...	...	...	...	...	...	...	.....	.....	39	
Gundagai	182,710	5,823	1,944	393	721	351	207	954	394	81	1,429	290	25	160 78	...	...	52	150	...	106	.....	861	Govt. building.
Gundaroo	32,730	540	290	74	123	102	32	172	31	14	217	160	65	...	...	...	...	...	...	12	.....	237	At Court House.
Gundurimba	3,410	284	...	...	...	...	...	39	16	...	55	47/10/-	...	...	...	...	...	...	...	.....	.....	47/10/-	
Gundy	9,980	335	...	...	...	...	...	158	18	...	176	49	...	...	...	...	...	...	...	.....	.....	49	
Gungal	3,710	... .	...	...	...	...	...	22	...	...	22	18/10/-	...	...	...	...	...	...	...	.....	.....	18/10/-	
Gunnedah	143,640	8,678	1,657	539	869	381	231	1,281	598	82	1,961	236	...	2 at 160 140	91	...	52	...	...	78/10/-	.....	917/10/-	Govt. building.
Gunnedah Railway Station.	.....	.....	...	...	...	...	...	... ..	...	...	.....	...	...	...	...	...	...	...	...	.....	.. ...	.....	At Railway Station.
Gunning	54,820	1,393	492	253	425	193	79	458	79	27	564	209	13	78	...	...	...	...	...	4	.....	304	Govt. building.
Guntawang	2,500	.....	...	...	...	...	...	.....	...	...	.....	20	...	...	...	...	...	...	...	.....	.....	20	
Guy Fawkes[28].....	480	380	...	...	...	...	...	.....	23	...	23	20	..	...	...	...	...	...	...	.....	.....	20	
Guyong.....	2,680	.....	...	...	...	...	...	19	...	...	19	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Guyra	29,550	772	390	121	143	50	26	230	46	19	295	59	...	...	...	...	39	...	...	.....	.....	98	At Railway Station.
Hall	4,750	.....	...	...	...	...	...	17	...	...	17	14	...	...	...	...	...	...	...	.....	.....	14	
Hamilton[29]	126,660	1,413	833	761	1,026	634	512	470	66	41	577	150	78	...	120 65	...	52	...	...	66/10/-	.....	531/10/-	Govt. building.
Hamilton Railway St.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	..	.....	.....	.....	At Railway Station.
Hampton	3,950	123	...	...	...	...	...	52	7	3	62	25	...	...	...	...	...	...	...	.....	.....	25	
Hanging Rock ...	4,630	.....	...	...	...	...	...	77	...	...	77	18	...	...	...	...	...	...	...	.....	.....	18	
Harden	39,810	1,475	1,051	232	333	427	153	320	82	49	451	140	...	...	...	...	...	...	26 Cadet	3	.....	169	Govt. building.
Harefield	5,180	103	...	...	..	...	...	30	6	...	36	18	...	...	...	...	...	...	...	.....	.....	18	At Railway Station.
Hargraves	23,500	529	311	49	31	39	33	88	32	14	134	87	...	...	...	...	...	...	...	.....	26	113	Rented.
Harnleigh	36,810	.....	...	...	...	...	...	208	...	...	208	25	...	...	...	...	...	...	...	.....	.....	25	
Harrington[23]	6,640	989	149	9	28	54	8	40	64	7	111	78	...	...	...	...	...	...	...	3	.....	81	Govt. building.
Harris-street	21,730	.....	301	53	118	1,110	469	292	...	16	308	50/10/-	...	...	...	...	...	...	...	.....	.. ...	50/10/-	
Hartley.....	4,810	.....	151	33	32	...	...	40	...	5	45	35	...	...	...	...	...	...	...	.....	.....	35	
Hartley Vale	22,610	611	877	136	308	335	117	183	34	41	258	100	26	...	...	...	...	...	...	3	26	155	Rented.
Harwood Island ...	31,080	1,404	402	52	58	272	82	169	84	22	275	120	91	...	...	...	...	...	...	3	.....	214	Govt. building.
Hatfield	12,120	.....	...	...	...	...	...	41	..	...	41	16	...	...	...	...	...	...	...	.....	.....	16	
Hawkesbury—(*See* Brooklyn.)	.....	705	...	...	...	...	...	.....	39	...	39	...	...	...	...	...	...	...	...	.....	.....	.....	

* Pending repairs to Government building. NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Hay	282,510	15,277	2,503	1,104	1,742	1,390	572	2,567	1,110	115	3,792	362	190 160 52	200 140 100	130 120	...	2 at 26	150	...	165/12/6	.....	1,821/12/6	Govt. building.
Haydonton	31,680	1,206	636	138	221	...	...	322	65	27	414	100	...	...	...	...	39	...	...	20/16/-	.....	159/16/-	Telegraph Office at Railway Station.
Haymarket	2,507,350	29,279	5,623	17,981	47,652	10,307	6,056	4,866	1,687	297	6,850	380	254 160 150	180 2 at 120 100	91	78 65	2 at 52 26	...	...	55	300	2,183	Rented.
Hazelgrove	4,220	... ..	...	...	...	...	...	5	...	...	5	19/10/-	...	...	...	..	...	...	...	.....	.....	19/10/-	
Heathcote	1,400	28	...	...	...	...	...	13	2	...	15	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Helensburgh	31,480	1,057	673	222	273	627	200	269	63	40	372	100	26	...	65	...	...	...	...	58	52	301	Rented.
Henty	19,020	352	304	36	102	61	18	140	19	12	171	15	...	...	...	...	...	...	...	.....	.....	15	At Railway Station.
Hermidale	1,880	.....	...	...	...	...	...	16	...	...	16	15	...	...	...	...	...	...	...	.....	.....	15	do
Hexham	8,680	189	168	74	83	67	35	37	10	7	54	57/10/-	...	...	...	...	...	...	5 Receiver Cleaner.	.....	... .	62/10/-	
Hexham Railway Stn.	.....	.....	...	...	...	...	...	.. ..	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Hickey's Creek	3,024	.....	...	...	...	...	...	35	...	...	35	17	...	...	...	...	...	..	...	.....	.....	17	
Hill End	30,250	1,984	852	269	294	255	188	443	171	38	652	190	40	...	110	...	...	...	...	40	.....	380	Govt. building.
Hillgrove	73,280	4,404	1,396	308	298	1,203	438	539	297	79	915	190	26	100	78	...	52	...	...	5	.....	451	do
Hillgrove West	14,330	1,182	721	67	49	248	123	120	69	28	217	120	26	...	...	...	...	...	...	2	20	168	Rented.
Hillston	84,370	5,049	953	252	245	360	149	743	387	49	1,179	200	...	120	91	...	52	150	...	70/12/6	.....	683/12/6	Govt. building.
Hilltop	4,150	19	...	...	...	...	...	43	1	...	44	11	5	...	...	...	...	...	...	.....	.....	16	At Railway Station.
Hinton	19,050	377	126	66	187	66	32	125	15	8	148	100	...	...	...	...	...	...	...	3	39	142	Rented.
Hobby's Yards	5,950	.....	...	...	...	...	...	79	...	1	80	26/10/-	...	...	...	...	..	...	...	.....	.....	26/10/-	
Holdsworthy	1,100	.....	...	...	...	...	..	1	...	...	1	10	...	...	...	...	...	...	...	.....	.....	10	
Holmwood	3,500	.....	...	...	...	...	...	32	...	...	32	13	...	...	...	...	...	...	...	.....	.....	13	
Holt's Flat	6,470	180	...	...	...	...	...	43	10	...	53	30	...	...	...	...	...	...	...	.....	.....	30	
Homebush	153,440	13,516	162	169	404	560	218	330	744	12	1,086	209	91	140	100	..	52	...	...	151/10/-	.....	834/10/-	Govt. building.
Homebush Cattle Yds.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	91	...	...	...	...	.....	.....	.....	
Home Rule	5,820	.. ...	157	44	63	45	23	62	...	5	67	56/10/-	...	...	...	...	...	...	...	.....	.....	56/10/-	
Honeysuckle Point	.....	.....[a]	...	...	...	...	...	.....	...	...	... ..	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Hornsby	3,280	.....	...	...	...	...	...	51	...	...	51	41	...	...	...	...	...	...	...	20	.....	61	
Hornsby Junc.[20]	20,190	.....	225	124	149	110	48	128	58	11	197	100	...	...	...	...	26	...	...	2	39	167	Rented.
Hornsby Junction Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	..	...	...	...	...	...	.....	.....	At Railway Station.
Hoskins' Town	2,250	.....	113	11	27	...	...	48	...	6	54	18	...	...	...	...	...	...	...	.....	.....	18	
Howe's Valley	1,580	.....	...	...	...	...	...	19	...	...	19	12	...	...	...	...	...	...	...	.....	.....	12	
Howlong	20,800	1,308	175	34	141	104	46	225	63	8	296	190	26	...	...	...	39	...	...	3	39	297	Rented.
Hoxton Park	3,550	.....	...	...	...	...	...	12	...	...	12	12/10/-	...	...	...	...	...	...	...	... ..	.....	12/10/-	
Humula	3,920	.....	...	...	...	...	...	40	...	2	42	12	...	...	...	...	...	...	...	.....	.....	12	
Hungerford	19,010	1,271	196	22	24	60	5	145	84	11	240	160	...	...	...	...	...	...	...	27	.....	187	Free, by Guarantors
Hunter's Hill	70,670	2,503	241	243	487	291	122	399	97	14	510	160	78	100	2 at 78 65	...	39	...	2 at 39 Switch-b'd attdts	123/10/-	.....	799/10/-	Govt. building.
Huntingdon	1,420	.....	...	...	...	...	...	23	...	...	23	17	...	...	...	...	...	...	...	.....	.....	17	
Hurstville	72,960	1,595	297	556	1,021	642	422	382	52	19	453	160	20	...	110 78	...	52	...	...	81	81/16/-	582/16/-	Rented.
Huskisson	1,280	.....	...	...	...	...	...	27	...	...	27	11	...	...	...	...	...	...	...	.....	.....	11	
Idaville	940	.....	...	...	...	...	...	18	...	...	18	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Ilford	10,570	.. ...	346	47	144	...	...	75	...	13	88	53/10/-	...	...	...	...	...	...	...	.....	.....	53/10/-	
Illabo	8,330	123	201	11	25	...	...	68	7	7	82	30	...	...	...	...	...	...	...	.....	.....	30	At Railway Station.
Iluka	3,430	.....	...	...	...	...	...	24	...	...	24	24	...	...	...	...	...	...	...	.....	.....	24	
Ingleburn	25,640	159	...	...	...	...	...	92	8	...	100	22	...	...	...	...	...	...	...	.....	.....	22	do
Inverell	199,700	7,950	2,051	724	923	670	335	1,836	567	104	2,507	218	160 75	180 100	100	...	2 at 52	...	...	51/10/-	.....	988/10/-	Govt. building.

Invergowrie	1,100	.....	...	...	...	...	...	2	...	...	2	10	...	...	...	...	...	...	...	.....	.....	10	
Irvington	1,580	167	...	...	...	...	...	8	8	...	16	26	...	...	...	...	...	...	...	10	.....	36	
Islington	22,850	.....	...	...	...	...	...	154	...	...	154	25	...	...	...	...	...	...	...	.....	.....	25	
Ivanhoe	18,230	1,389	176	25	5	74	13	273	115	9	397	160	...	...	...	...	...	...	...	23/10/-	25	208/10/-	Rented.
Jamberoo	34,040	754	341	62	128	142	58	227	40	14	281	91	...	...	...	...	...	...	...	1	.....	92	
Jamison Town	1,290	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Jasper's Brush	4,990	.. ...	...	...	...	...	...	.....	...	...	.....	10/10/-	...	...	...	...	...	...	...	12/10/-	.....	23	
Jeir	4,610	.....	...	...	...	...	...	46	...	1	47	20	...	...	...	...	...	...	...	... ..	.....	20	
Jembaicumbene	2,660	.....	...	...	...	...	...	13	...	...	13	14	...	...	...	...	...	...	...	.....	... ..	14	
Jennings	.....	57	...	...	...	...	...	17	5	...	22	...	...	...	...	...	...	...	...	.....	.....	.....	
Jenolan Caves[31]	10,170	383	148	12	22	11	...	52	23	9	84	100	...	...	...	...	...	...	...	.....	13	113	Rented.
Jerangle	1,120	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Jerilderie	73,220	4,385	821	153	253	214	77	839	283	39	1,161	254	91	130	52	...	...	...	...	44	... ..	597	Govt. building.
													26										
Jerrara	1,020	.. ...	...	...	...	...	...	.....	...	...	.....	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Jerrawa	4,060	50	...	...	...	...	...	39	3	2	44	21	...	...	...	...	...	...	...	.....	.....	21	At Railway Station.
Jerrong	890	.....	...	...	...	...	...	27	...	...	27	11/10/-	...	...	...	...	...	...	...	.....	.. ...	11/10/-	
Jerry's Plains	20,980	689	211	48	38	43	11	112	39	9	160	110	...	...	...	...	52	...	...	4	.....	166	Govt. building.
Jerseyville	5,090	303	...	...	...	...	...	30	18	...	48	37	...	...	...	...	...	...	...	.....	.....	37	
Jiggi	340	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Jimenbuan	2,060	.....	...	...	...	...	...	55	...	...	55	11/10/-	...	...	...	...	...	...	...	.....	.. ...	11/10/-	
Jindabyne	9,610	419	169	26	52	...	...	101	27	7	135	45	...	...	...	...	...	...	...	.....	.....	45	
Jindalee	2,140	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	10	.....	20	
Jindera	8,440	338	115	36	16	87	33	62	22	5	89	57	...	...	...	...	...	...	...	.....	.....	57	
Jingellic	4,430	333	...	...	...	...	...	40	22	...	62	20	...	...	..	...	...	...	...	.....	.. ...	20	
Joadja Creek	8,640	.....	236	52	78	112	45	90	...	11	101	40	...	...	...	...	...	...	...	25	.....	65	
Judd's Creek	5,140	.....	...	...	...	...	...	33	...	...	33	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Jugiong	8,670	367	324	24	33	...	...	103	26	11	140	33/10/-	...	...	...	...	...	...	...	.....	.....	33/10/-	
Junee	141,660	4,797	1,970	533	908	841	309	1,229	282	100	1,611	200	110	160	78	...	52	...	...	62/10/-	.....	772/10/-	Govt. building.
														110									
Junee Railway Station[25]	.....	901	...	...	...	...	...	.. ...	51	...	51	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Kangaloon	6,840	.....	147	7	25	...	...	34	...	6	40	22	...	...	...	...	...	...	...	.....	.....	22	
Kangaroo Creek	1,430	.....	...	...	...	...	...	18	...	...	18	16	...	...	...	...	...	...	...	.....	.....	16	
Kangaroo Valley	20,331	948	349	86	147	170	46	225	57	17	299	110	...	...	...	...	...	...	31/4/- Receiver Clearer.	1	26	168/4/-	Rented.
Kar's Springs	2,310	.....	...	...	...	..	...	20	...	...	20	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Karuah	4,670	.....	...	...	...	...	...	43	...	...	43	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Katoomba	87,830	4,274	1,189	542	890	524	207	977	251	71	1,299	209	26	100	100	...	2 at 52	...	56	.....	100	695	Rented.
Katoomba Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Kayuga	1,560	.....	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	.....	.. ...	11/10/-	
Keepit	1,470	.....	...	...	...	...	...	13	...	...	13	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Keiraville	1,960	.....	...	...	...	...	...	13	...	...	13	10	...	...	...	...	...	...	...	.....	.....	10	
Kelly's Plains	2,660	.....	...	...	...	...	...	12	...	...	12	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Kellyville	5,520	.....	...	...	...	...	...	48	...	...	48	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Kelso	30,080	653	256	153	193	223	46	167	38	14	219	160	40	...	...	...	...	...	...	2	40	242	Rented.
Kelso Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.. ..	.....	.....	At Railway Station.
Kembla Heights	5,250	.....	123	34	69	127	35	69	...	7	76	22	...	...	...	...	...	...	...	20	.....	42	
Kempsey	122,970	4,950	1,013	403	883	311	129	555	314	47	916	254	91	78	78	...	39	150	...	116	.....	806	Govt. building.
Kendall[25]	6,710	201	178	27	73	3	...	52	11	8	71	58	..	..	..	...	...	...	...	1	.....	59	
Kenthurst	2,760	.....	...	...	...	...	...	25	...	...	25	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Kentucky	9,370	137	111	11	16	...	...	125	8	8	141	37	...	...	..	...	...	...	...	.....	.....	37	At Railway Station.
Kerrabee	7,030	....	...	...	...	...	...	27	...	...	27	26	...	...	...	...	..	...	...	.....	.....	26	
Kerr's Creek	4,760	95	...	...	...	...	...	47	6	...	53	17	...	...	..	..	...	...	...	.....	.....	17	do
Kew	4,160	437	...	...	...	...	...	.....	28	...	28	48/10/-	...	...	...	...	...	...	...	.....	.....	48/10/-	
Khancoban	870	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Kiah	610	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Kialla	3,380	.....	...	...	...	...	...	.....	...	...	.....	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Kiama	139,770	4,017	789	499	1,414	667	270	948	221	58	1,227	281	...	2 at 189	100	...	52	150	26	124/10/-	.....	1,262/10/-	Govt. building.
														78	91				Cadet.				
Kiandra	7,090	489	369	90	53	54	41	130	27	16	173	91	13	...	...	...	...	...	...	3	.....	107	do

[a] Telegraph returns included in Newcastle West.

NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Kilgin	570	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Killawarra	1,020	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Kimbriki	1,050	.....	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Kinchela Creek	3,460	230	101	17	24	10	5	37	14	4	55	78	...	...	...	...	...	...	...	15	13	106	Rented.
Kincumber	3,360	.....	...	...	...	...	...	32	...	...	32	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Kingstown	1,350	.....	...	...	...	...	...	18	...	...	18	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
King-street	1,591,300	30,554	1,924	382	799	1,027	442	3,824	2,025	114	5,963	326	100	180 78	...	...	52	...	...	5	450	1,191	Rented.
Kingswood	3,880	.....	...	...	...	...	...	7	...	...	7	10	...	...	...	...	...	...	...	.....	.....	10	
Kiora	490	.....	...	...	...	...	...	14	...	...	14	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Knorrit Flat	1,060	.....	...	...	...	...	...	17	...	...	17	11	...	...	...	...	...	...	...	.....	.....	11	
Kogarah	87,530	2,547	332	457	850	1,046	496	427	112	22	561	140	25	...	135 78 65 52	78	2 at 52	...	...	99	.....	776	Govt. building.
Kookabookra	5,930	.....	136	3	5	8	6	8	...	6	14	23	...	...	...	...	...	...	...	.....	.....	23	
Koorawatha	13,500	305	...	...	...	...	...	.....	17	...	17	15	...	...	...	...	...	...	...	.....	.....	15	At Railway Station.
Krambach	9,680	287	132	20	27	...	...	47	17	5	69	40	...	...	...	...	...	...	...	.....	.....	40	
Krawarree	2,950	.....	...	...	...	...	...	36	...	1	37	20	...	...	...	...	...	...	...	.....	.....	20	
Kunopia	3,130	401	65	1	5	36	5	115	25	4	144	130	...	...	...	...	...	...	...	53	15	198	Rented.
Kurrajong	9,500	325	...	...	...	...	...	90	20	...	110	52	...	...	...	...	...	...	...	2	.....	54	
Kurrajong Heights	8,190	233	...	...	...	...	...	38	14	...	52	47/10/-	...	...	...	...	...	...	...	.....	.....	47/10/-	
Kyamba	7,480	210	...	...	...	...	...	15	13	...	28	165	16	...	...	...	...	...	...	47/12/6	.....	228/12/6	Govt. building.
Kybean	180	.....	...	...	...	...	...	3	...	...	3	10	...	...	...	...	...	...	...	.....	.....	10	
Laggan	10,630	417	...	...	...	...	...	79	25	...	104	64/10/-	...	...	...	...	...	...	...	.....	.....	64/10/-	
Laguna	4,460	.....	...	...	...	...	...	41	...	...	41	19	...	...	...	...	...	...	...	.....	.....	19	
Lake Albert	1,940	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Lake Bathurst	10,710	.....	...	...	...	...	...	103	...	...	103	19/10/-	...	...	...	...	...	...	...	13	.....	32/10/-	
Lake Cudgellico	20,330	1,401	579	64	81	103	34	256	84	25	365	227	91	...	...	...	...	...	...	4	30	352	Rented.
Lambton	97,890	1,021	392	460	760	405	275	266	44	23	333	218	30	78	145 65	...	...	...	...	73	.....	609	Govt. building.
Landsdown	870	.....	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Lansdale	3,790	.....	...	...	...	...	...	70	...	...	70	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
La Perouse	8,890	791	...	...	...	...	...	13	28	...	41	*	...	...	...	...	...	...	...	.....	.....	.....	Govt. building.
Largs	6,610	136	90	21	50	...	...	44	7	3	54	59	...	...	...	...	...	...	...	.....	.....	59	
Laurieton	8,710	1,211	251	78	35	103	28	153	74	12	239	150	78	...	...	...	...	...	...	4	.....	232	Govt. building.
Lawrence	21,880	933	404	82	90	60	27	119	53	15	187	190	20	...	...	...	52	...	...	39	.....	301	do
Lawson	26,490	1,270	286	134	219	105	57	292	61	24	377	140	100	...	...	...	...	...	...	8	70	318	Rented.
Lawson Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Leadville	17,530	810	420	92	59	46	48	169	51	17	237	100	65	...	...	...	...	...	...	2	.....	171	Free, by Guarantors.
Leet's Vale	1,560	.....	...	...	...	...	...	19	...	...	19	11	...	...	...	...	...	...	...	.....	.....	11	
Leichhardt	303,894	4,163	769	1,764	2,861	3,344	1,437	1,458	167	45	1,670	180	...	120 100 78	145 2 at 125 105 78 52 39	2 at 78	52 2 at 26	...	...	78	.....	1,485	Govt. building.
Lewis Ponds	5,380	163	72	57	35	22	16	43	11	4	58	52	...	...	...	...	...	...	...	.....	.....	52	
Liddell	1,440	.....	...	...	...	...	...	14	...	...	14	10/10/-	...	...	...	...	...	...	...	7	.....	17/10/-	
Lidsdale	4,040	.....	47	45	22	23	9	35	...	3	38	34	...	...	...	...	...	...	...	30	.....	64	
Lilyfield	5,310	84	...	...	...	...	...	45	3	...	48	26	...	..	...	...	...	...	...	.....	.....	26	
Limeburner's Creek	2,730	.....	...	...	...	...	...	47	...	...	47	23	...	..	...	...	...	...	...	.....	.....	23	
Limekilns	1,330	.....	...	...	...	...	...	18	...	..	18	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	

Limestone	1,970	.....	...	...	...	...	...	8	...	...	8	10	...	...	...	...	...	...	...	.....	.....	10	
Linburn	2,810	.....	...	...	...	...	...	27	...	...	27	11	...	...	...	...	..	...	...	.....	.....	11	
Lincoln	1,390	.....	...	...	...	...	...	4	...	...	4	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Linden	.....	91	...	...	...	...	...	.....	5	...	5	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Lindfield[34]	6,720	38	...	...	...	...	...	104	1	...	105	30	...	...	...	...	...	..	...	.....	.....	30	do
Lionsville	3,250	.....	...	...	...	...	...	52	...	...	52	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Lismore	152,600	12,672	2,076	1,069	1,394	798	373	1,345	863	98	2,306	254	140	170	91	78	52	150	...	130	.....	1,389	Govt. building.
														120	65	...	39						
														100									
Lithgow	126,520	3,706	1,729	1,199	1,908	1,318	507	1,079	218	105	1,402	254	78	...	78	...	39	...	5	86	.....	657	Govt. building.
													65		52				Receiver Clearer.				
Lithgow Riy. Stn.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Little Bendigo[14]	420	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Little Billabong	3,730	.....	...	...	...	...	...	18	...	...	18	42	...	...	...	...	...	...	...	.....	.. ...	42	
Little Hartley	5,830	.....	66	33	36	...	...	51	...	4	55	29/10/-	...	...	...	...	...	...	...	.....	.....	29/10/-	
Little Plain	1,520	.....	...	...	...	...	...	16	...	...	16	16	...	...	...	...	...	...	...	.....	.....	16	
Liverpool	109,620	2,430	728	1,092	1,577	876	566	570	133	36	739	218	...	120	78	78	...	...	5	109/10/-	.....	673/10/-	Govt. building.
															65				Receiver Clearer.				
Llandilo	830	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Llangothlin	8,730	.....	...	...	...	...	...	80	...	...	80	17	...	...	...	...	...	...	...	25	.....	42	
Lochinvar	14,120	557	134	104	156	68	47	114	32	8	154	100	...	...	...	...	...	...	...	1/10/-	40	141/10/-	Rented.
Lochinvar Railway Station.	.....	.....	...	...	...	...	...	... ..	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	... ..	At Railway Station.
Locksley	4,370	35	...	...	...	...	...	50	2	...	52	12	...	...	...	...	...	...	...	.....	.. ...	12	do
Loftus	.....	.....*a*	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	do
Long Creek	4,100	.....	...	...	...	...	...	35	...	...	35	11	...	...	...	...	...	...	...	.....	.....	11	
Long Flat	1,900	.....	...	...	...	...	...	2	...	...	2	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Long Reach	3,110	.....	...	...	...	...	...	19	...	...	19	17	...	...	...	...	...	...	...	.....	.....	17	
Longueville	9,990	358	...	...	...	...	...	27	12	...	39	38	...	...	...	...	...	...	..	57	.....	95	
Lord Howe Island	420	.....	...	...	...	...	...	9	...	...	9	10/10/-	...	...	...	...	...	...	...	6	.....	16/10	
Lostock	3,450	.....	...	...	...	...	...	15	...	...	15	16	...	...	...	...	...	...	...	.....	.....	16	
Louth	29,990	1,393	370	69	54	101	33	259	90	20	369	200	20	78	...	...	...	150	...	67/7/6	.....	515/17/6	Govt. building.
Lower Botany	20,040	1,073	256	117	204	589	241	117	38	13	168	160	...	120	...	78	52	...	...	36/10/-	60	506/10/-	Rented.
Lower Hawkesbury	7,380	.....	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Lower Mangrove	2,710	.....	...	...	...	...	...	37	...	2	39	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Lower Portland	2,950	.....	140	5	12	...	...	32	...	5	37	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Lower Southgate[35]	530	... ..	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	5	.....	15	
Lower Tarcutta	2,140	.....	...	...	...	...	...	20	...	...	20	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Lower Yammatree	1,350	.....	...	...	...	...	...	16	...	...	16	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Lowesdale[36]	1,560	120	...	...	...	...	...	11	7	...	18	21/10/-	...	...	...	...	...	...	...	.....	.....	21/10/-	
Lowther	2,220	.....	...	...	...	...	...	17	...	...	17	13	...	...	...	...	...	...	...	.....	.....	13	
Lucknow	27,410	1,533	955	143	118	651	233	303	290	53	646	120	...	...	...	...	39	...	...	39/10/-	.....	198/10/-	Provided free of rent.
Luddenham	4,870	.....	105	55	67	...	...	32	...	5	37	25/10/-	...	...	...	...	...	..	...	.....	.....	25/10/-	
Lue	13,010	.....	223	33	84	...	...	70	...	8	78	40	...	...	...	...	...	...	...	.....	.....	40	
Lyndhurst	20,110	227	190	40	77	...	...	103	12	12	127	49	...	...	...	...	...	...	...	.....	.....	49	At Railway Station.
Macdonaldtown	7,110	.....	53	106	320	268	144	112	...	3	115	24	...	...	...	...	...	...	...	.....	.....	24	
Macksville	15,470	1,075	432	88	106	90	47	84	80	18	182	78	...	78	...	...	...	...	...	3	30	189	Rented.
Maclean	60,730	4,232	967	300	545	293	136	478	286	45	809	254	78	160	105	...	...	...	...	21	.....	718	Govt. building.
														100									
Mahonga	1,860	.....	...	...	...	...	...	12	...	...	12	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Major's Creek	9,950	339	315	87	100	114	87	121	19	15	155	150	...	...	...	...	...	...	...	28	.....	178	Govt. building.
Malebo	3,100	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Manar	4,130	.....	...	...	...	...	...	38	...	...	38	11/10/-	...	..	...	...	...	...	...	.....	.....	11/10/-	
Mandalong	630	.....	...	...	...	...	...	11	...	...	11	10/10/-	...	...	...	...	...	...	...	10	.....	20/10/-	
Mandurama[37]	66,300	749	2	29	10	...	...	306	38	7	351	78	...	...	...	...	...	...	...	20	.....	98	
Mandurama Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Mangrove Creek	2,890	.....	...	...	...	...	...	53	...	...	53	13	...	...	...	...	...	...	...	15	.....	28	
Manildra[38]	10,310	272	119	10	45	22	16	128	16	5	149	32	...	...	...	...	...	...	...	15	.....	47	
Manilla	43,360	1,533	542	82	109	240	107	435	99	22	556	190	78	...	...	...	...	...	...	4	60	358	Rented.
													26										

* Cable Company allowed £300 per annum for maintenance of Telegraph Station; £15 per annum allowed to Company for Postal duties. *a* Telegraph returns included in Sutherland. NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters Posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Manly	133,660	6,668	448	626	1,174	922	425	957	258	33	1,248	254	...	170 140	110 2 at 78	52	52 26	...	2 at 39 26 switch attendants.	124/10/-	.....	1,188/10/-	Govt. building.
March	1,180	.....	...	...	...	...	...	8	...	...	8	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Marengo	8,860	369	148	20	24	26	22	109	21	7	137	160	...	...	...	...	...	...	...	3	.....	163	Govt. building.
Marlee	1,730	... ..	...	...	...	...	...	23	...	...	23	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Marlow	1,530	.....	...	...	...	...	...	17	...	...	17	11	...	...	...	...	...	...	...	.....	.....	11	
Marrangaroo	1,860	.....	...	...	...	..	...	36	...	...	36	11	...	...	...	...	...	...	...	.....	.....	11	At Railway Station.
Marrickville	408,070	4,609	857	1,437	2,285	2,436	1,396	1,060	171	43	1,274	254	65	130 100	135 120 115 105 3 at 91	2 at 78	2 at 52 39	...	...	371/10/-	.....	1,967/10/-	Govt. building.
Marsden Park	3,340	.. ...	...	...	...	...	...	15	...	...	15	15/10/-	...	...	...	...	...	...	...	7/10/-	.....	23	
Marsden's	50,150	1,788	228	53	32	60	23	207	109	10	326	120	...	...	...	...	52	...	...	25	40	237	Rented.
Marshall M'Mahon Reef.	1,130	.....	...	...	...	...	...	.....	...	...	.. ...	10	...	...	...	...	...	...	...	.....	.....	10	
Marshall Mount	1,560	.....	...	...	...	...	...	12	...	...	12	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Martinsville	2,550	.....	...	...	...	...	...	21	...	1	22	10/10/-	...	...	...	...	...	...	...	25	.....	35/10/-	
Marulan	36,400	647	396	182	349	184	96	230	38	25	293	150	20	...	...	...	39	...	...	24	.....	233	Govt. building.
Maryland	3,570	.....	...	...	...	...	...	39	...	...	39	16	...	...	...	...	...	...	...	.....	.....	16	
Maryvale	5,630	196	139	26	16	26	12	63	10	6	79	22	...	...	...	...	...	...	...	.....	.....	22	At Railway Station.
Matheson	5,380	.....	...	...	...	...	...	30	...	...	30	23	...	...	...	...	...	...	...	.....	.....	23	
Mathoura	17,260	842	266	23	53	...	...	117	52	12	181	60/10/-	20	...	...	...	...	...	...	.....	... ..	80/10/-	At Railway Station.
Maude	8,340	455	...	...	...	...	...	126	27	...	153	56	...	...	...	...	...	...	...	.....	.....	56	
Mayfield	2,440	.....	...	...	...	...	...	16	...	...	16	10/10/-	...	...	...	...	...	...	...	.. ...	.....	10/10/-	
May's Hill	1,460	... ..	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/-10/-	
Meadow Bank	5,950	.....	...	...	...	...	...	3	...	...	3	10	...	...	...	...	...	...	...	.. ...	.....	10	At Railway Station.
Meadow Flat	3,860	.....	...	...	...	...	...	81	...	...	81	30/10/-	...	...	...	...	...	...	...	.....	.....	30/10/-	
Medlow	2,920	238	...	...	...	...	...	17	14	...	31	11	...	...	...	...	...	...	...	.....	.....	11	
Megalong	5,150	.....	...	...	...	...	...	13	...	...	13	15	...	...	...	...	...	...	...	.....	.....	15	
Menangle	15,000	187	130	28	36	...	...	110	10	9	129	45	...	...	...	...	...	...	...	.....	.....	45	At Railway Station.
Menindie	35,080	3,492	424	92	83	61	36	474	265	25	764	236	...	120	...	...	52	150	...	81/12/6	.....	639/12/6	Govt. building.
Meranburn[29]	1,860	.....	79	15	37	22	15	36	...	3	39	10	...	...	...	...	...	...	...	.....	.....	10	
Merewether	27,180	796	423	879	481	495	380	426	42	23	491	150	78	...	110 78	...	...	...	...	39/10/-	35	490/10/-	Rented.
Merigal	4,130	.....	...	...	...	...	...	70	...	...	70	14	...	...	...	...	...	...	...	.....	.....	14	
Merimbula	7,860	740	115	25	68	142	23	64	37	5	106	100	...	...	...	...	...	...	...	2	30	132	Rented.
Merindee	1,340	.....	...	...	...	...	...	14	...	...	14	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Merrilla	1,540	.....	...	...	...	...	...	19	...	...	19	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Merriwa	49,530	2,044	492	82	138	107	45	420	119	27	566	100	...	160	...	...	52	...	...	3/10/-	.....	315/10/-	Govt. building.
Mercygoen	5,270	.....	...	...	...	...	...	95	...	...	95	27/10/-	...	...	...	...	...	...	...	.....	.....	27/10/-	
Merrylands	12,080	444	...	...	...	...	...	54	18	...	72	11	..	...	39	...	...	...	...	36/10/-	.....	86/10/-	At Railway Station.
Michelago	11,560	463	365	39	55	19	10	119	29	15	163	40	...	...	...	...	...	...	...	.....	.....	40	
Middle Arm	1,070	.....	...	...	...	...	...	13	...	...	13	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Middledale	550	.....	...	...	...	...	...	19	...	...	19	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Middleton-street	39,060	.....	...	...	...	...	...	429	...	...	429	56/10/-	...	...	...	...	...	...	...	.....	.....	56/10/-	
Military Road	.. ...	726	...	...	...	...	...	.....	22	...	22	26	...	...	...	...	...	...	...	.....	.....	26	
Millamurra	410	... ..	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	... ..	.. ...	11/10/-	
Miller's Forest	5,540	156	75	22	46	...	...	38	7	4	49	28	...	16	...	...	...	...	...	.. ...	.....	44	
Miller's Point	68,830	2,452	537	154	301	1,178	633	255	115	33	403	130	25	...	...	...	52	...	...	.....	156	363	Rented.
Millfield	4,120	120	...	...	...	...	...	30	6	...	36	43/10/-	...	...	...	...	...	...	...	.....	.....	43/10/-	
Millie	31,740	1,354	296	17	32	...	...	318	90	12	420	100	78	...	...	...	...	...	...	23	50	251	Rented.

Millthorpe	49,060	1,590	560	179	287	168	114	492	84	27	603	140	26	78	...	...	...	...	...	23	.....	267	Govt. building.
Millthorpe Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Milperinka	16,770	2,389	454	131	22	63	24	239	197	24	460	180	...	91	...	...	...	...	...	33/10/-	40	344/10/-	Rented.
Milson's Point	71,187	4,661	423	180	550	...	...	786	326	24	1,136	130	...	100	91	...	52	...	...	30	39	559	do
															78	...	39						
Milton	56,960	1,902	803	197	261	248	68	441	122	40	603	218	...	100	78	...	...	150	...	102	.....	648	Govt. building.
Mingelo	2,590	.....	...	...	...	...	...	31	...	...	31	11	...	...	...	...	...	...	...	.....	.....	11	
Minmi	56,060	1,408	516	367	312	453	383	249	69	31	349	160	78	...	100	...	...	...	...	28	50	416	Rented.
Minto	12,190	225	...	...	...	...	...	83	12	...	95	30	...	...	...	...	20/16/-	...	...	.....	.....	50/16/-	At Railway Station.
Mitchell's Flat	840	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	..	.....	.....	10	
Mitchell's Island	1,700	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Mittagong	65,410	2,005	709	457	758	510	223	568	114	44	726	218	...	78	91	...	52	150	...	93	.....	682	Govt. building.
Mittagong Railway Station.[25]	.....	31	...	...	...	...	...	.....	2	...	2	...	...	...	..	...	...	...	...	.....	.....	.....	At Railway Station.
Mitta Mitta	2,060	.....	..	...	...	...	...	19	...	...	19	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Moama	39,170	1,738	290	184	225	122	68	296	108	13	417	200	...	78	78	52	...	...	...	8	.....	416	Govt. building.
Moatefield	1,700	.....	...	...	...	...	...	36	...	...	36	21/10/-	...	...	...	...	...	...	...	18	.....	39/10/-	
Mogilla	1,990	.....	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Mogil Mogil	10,650	1,657	197	26	8	56	21	138	109	11	258	100	...	...	..	...	...	...	...	26	37	163	Rented.
Mogo	4,430	322	...	...	...	...	...	27	18	...	45	36	...	...	...	...	...	...	...	1	.....	37	
Moira	6,550	.....	...	...	...	...	...	29	...	...	29	34	...	...	...	...	...	...	...	.....	.....	34	
Molong	200,220	2,776	1,540	721	1,250	536	283	823	178	70	1,071	227	78	...	91	...	39	...	...	50/10/-	.....	485/10/-	Govt. building.
Molong Rail'y Stn.	.....	... ..	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Molonglo	12,080	271	73	7	24	84	50	71	16	6	93	74	...	...	...	...	...	...	...	1	.....	75	
Money Order Office	.....	7,126	...	...	...	...	...	.....	404	...	404	...	...	...	...	...	...	...	...	.....	.....	.....	Govt. building.
Mongarlowe	5,160	.....	138	27	83	...	...	41	...	5	46	15/10/-	...	...	..	...	...	...	...	.. ...	.....	15/10/-	
Monkerai	1,930	.....	...	...	...	...	...	21	...	...	21	16	...	...	...	...	...	...	...	.....	.....	16	
Monteagle	4,800	.....	...	...	...	...	...	88	...	...	88	17/10/-	...	...	...	...	...	...	...	26	.....	43/10/-	
Montefiores	5,870	.....	...	...	...	...	...	115	...	...	115	28	...	...	...	...	...	...	...	30	.....	58	
Moonan Brook	8,800	334	183	13	21	24	20	121	20	8	149	50/10/-	...	...	...	...	...	...	...	.....	.....	50/10/-	
Moonbah	1,960	.....	...	...	...	...	...	30	...	...	30	11/10/-	...	...	...	...	...	...	...	16	.....	27/10/-	
Moonbi Railway Station.	7,370	347	272	54	77	27	39	93	26	11	130	30	...	...	...	...	...	...	...	.....	.....	30	At Railway Station.
Moorilda	4,100	.....	...	...	...	...	...	21	...	...	21	27	...	...	...	...	...	...	...	.....	.....	27	
Moorland	2,640	.....	...	...	...	...	...	40	...	...	40	25/10/-	...	...	...	...	...	...	...	.....	.....	25/10/-	
Moorwatha	1,440	.....	...	...	...	...	...	21	...	...	21	11	...	...	...	...	...	...	...	.....	.....	11	
Morangarell	7,350	674	95	29	18	15	9	89	44	5	138	130	...	...	...	...	...	...	...	3	.....	133	Govt. building.
Moree	185,590	10,441	1,691	541	512	495	241	2,005	724	85	2,814	209	40	200	78	...	52	...	...	96/10/-	39	824/10/-	Rented.
														110									
Morisset	.....	161	...	...	...	...	...	.....	9	...	9	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Morongla Creek	1,890	.....	...	...	...	...	...	32	...	...	32	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Morpeth	97,740	2,394	529	182	482	283	148	385	130	25	540	236	100	...	150	...	52	...	...	44/10/-	.....	582/10/-	Govt. building.
Morpeth Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Mortdale	2,590	.....	...	...	...	...	...	67	...	...	67	11/10/-	...	...	...	...	...	...	...	39	... ..	50/10/-	
Mortlake	8,460	312	...	...	...	...	...	13	9	...	22	30	...	...	...	...	...	...	...	.....	.....	30	
Morundah	6,810	904	...	...	...	...	...	110	55	...	165	34	...	...	...	...	...	...	...	.....	.....	34	
Moruya	71,940	3,386	1,251	447	638	303	91	581	214	53	848	218	91	110	78	...	...	150	...	127/12/6	.. ..	774/12/6	Govt. building.
Moruya Heads	.....	126	...	...	...	...	...	.....	8	...	8	52	...	...	...	...	...	...	...	.....	.....	52	
Morven	7,710	.....	...	...	...	...	...	41	...	...	41	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Mosman	93,160	2,022	226	157	301	429	196	248	73	15	336	130	...	...	91	...	52	...	...	143/10/-	40	573/10/-	Rented.
															78								
															39								
Mossgiel	25,080	1,465	286	48	39	35	13	415	108	15	538	190	40	..	...	...	...	...	...	3/10/-	52	285/10/-	Rented.
Moss Vale	185,990	5,697	1,199	718	1,404	684	256	1,043	379	71	1,493	200	160	78	91	...	52	...	...	96	.....	697	Govt. building.
													20										
Moulamein	25,450	1,752	393	46	69	57	19	294	115	17	426	227	91	...	...	...	...	...	...	67/17/6	.....	385/17/6	do
Mount Adrah	760	.....	...	...	...	...	...	5	...	...	5	10	...	...	...	...	...	...	...	.....	.....	10	
Mount Costigan	4,520	.....	...	...	...	...	...	35	...	...	35	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Mount Druitt	3,160	116	...	...	...	...	...	.....	6	...	6	10	...	...	...	...	...	...	...	.....	.. ...	10	At Railway Station.
Mount Drysdale[40]	22,540	.....	478	71	131	66	31	176	...	18	194	91	...	...	...	...	...	...	...	20	50	161	Rented.

NOTE.—For references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Mount Elliott	4,410	.....	...	...	...	...	...	11	...	...	11	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Mount Harris	11,560	.....	...	...	...	...	...	26	...	...	26	26	...	...	...	...	...	...	...	.....	.....	26	
Mount Hope	11,160	2,378	378	92	36	83	33	155	175	19	349	120	...	...	...	...	26	...	...	23	52	221	Rented.
Mount Hunter	2,300	.....	...	...	...	...	...	22	...	...	22	12	...	...	...	...	...	...	...	.....	.....	12	
Mount Ida	4,640	.....	...	...	...	...	...	78	...	...	78	15	...	...	..	...	...	...	...	.....	.....	15	
Mount Keira	4,320	... ..	...	...	...	...	...	23	...	...	23	11	...	...	...	...	...	...	...	.....	.....	11	
Mount Kembla	11,300	1,004	81	31	16	31	23	47	58	4	109	33	...	9	...	...	...	...	...	.....	.....	42	
Mount M'Donald	14,460	791	504	51	76	66	41	206	108	20	334	91	...	...	...	...	...	...	...	3	24	118	Rented.
Mount Mitchell	1,360	.....	...	...	...	...	...	35	...	...	35	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Mount Victoria	34,920	2,221	384	136	345	238	88	355	115	25	495	227	...	100	...	...	52	150	...	41/10/-	.....	570/10/-	Govt. building.
Mount Victoria Railway Station.	.....	.....	...	....	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Mount Vincent	3,130	.....	164	27	54	...	...	33	...	5	38	19	...	...	...	...	...	...	...	.....	.....	19	
Mudgee	281,690	8,318	2,639	1,920	2,645	836	490	2,391	562	131	3,084	299	140 100	160 140 120	125 39	...	52 52	150	...	155/10/-	.....	1,532/10/-	Govt. building.
Mudgee Rail'y Stn.	.....	... ..	..	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Mulgoa	13,130	378	127	54	75	34	27	103	21	6	130	110	20	...	...	...	...	...	...	3	.. ...	133	Govt. building.
Mulgrave	4,160	38	...	...	...	...	...	14	2	...	16	21	...	...	...	...	...	...	...	.....	.....	21	At Railway Station.
Mullaley	6,420	655	...	...	...	...	...	.....	40	...	40	48	...	...	...	...	...	...	...	.....	.....	48	
Mullengandra	6,970	.....	...	...	...	...	..	18	...	...	18	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Mullengudgery	4,580	.....	...	...	...	...	...	34	...	...	34	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Mullion Creek	3,240	160	...	...	...	...	...	19	9	...	28	11	...	...	...	...	...	...	...	.....	.....	11	At Railway Station.
Mulloon	630	.....	...	...	...	...	...	10	...	...	10	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Mullumbimby	4,460	354	...	...	...	...	...	47	22	...	69	27	...	...	...	...	...	...	...	12	.....	39	
Mulwala	21,700	1,089	379	60	56	90	41	221	66	15	302	190	...	...	...	...	...	...	...	3	.....	193	Govt. building.
Mumbil	5,690	100	...	...	...	...	...	45	6	2	53	11	...	..	...	...	...	...	...	.....	.....	11	At Railway Station.
Mummell	2,520	.....	...	...	...	...	...	.....	...	...	.....	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Mundooran	6,700	650	358	31	40	32	25	194	38	14	246	150	78	...	...	...	...	...	...	2	45	275	Rented.
Mungindi	21,280	3,107	598	88	45	106	38	281	208	27	516	160	10	...	...	...	...	...	...	6	35	211	do
Mungunyah	1,950	.....	...	...	...	...	...	13	...	...	13	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Murga	4,980	.....	...	...	...	...	...	24	...	...	24	24	..	...	...	...	...	...	...	.....	.....	24	
Murrayville[41]	.....	481	...	...	...	...	...	.....	41	...	41	26	...	...	...	...	...	...	...	.....	.....	26	
Murrumbateman	3,840	.....	...	...	...	...	...	17	...	...	17	20	...	...	...	...	...	...	...	.....	.....	20	
Murrumbidgerie	9,840	316	283	32	47	...	...	86	17	11	114	21	..	...	...	...	...	...	...	.....	.. ...	21	At Railway Station.
Murrumburrah	91,740	2,864	1,012	409	497	470	214	754	176	47	977	200	...	100	...	...	39	...	...	26/10/-	.....	365/10/-	Govt. building.
Murrungundy	3,130	.....	...	...	...	...	...	11	...	...	11	12	...	...	...	...	...	...	...	.....	.....	12	
Murrurundi	34,740	1,097	723	341	469	506	154	268	81	38	387	254	130	218	...	...	52	...	...	6	.....	660	Govt. building.
Murrurundi Railway Station.	.....	.....	...	...	...	...	...	...	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Murwillumbah	93,620	5,136	1,405	321	385	406	300	624	354	70	1,048	254	...	170 78	...	...	52	150	...	50/12/6	52	806/12/6/-	Rented.
Muscle Creek	2,380	.....	...	...	...	...	...	17	...	...	17	10/10/-	...	..	...	...	...	...	...	.....	.....	10/10/-	
Muswellbrook	241,970	7,075	1,342	596	998	503	330	1,387	477	72	1,936	236	130	2 at 100	91	...	52 26	...	...	41/10/-	.....	776/10/-	Govt. building.
Muswellbrook Railway Station.	... ..	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	..	...	...	...	.....	.....	.....	At Railway Station.
Muttama	7,080	.....	...	..	...	...	...	.....	...	...	.....	14/10/-	...	...	...	...	...	...	...	13	.....	27/10/-	
Myra Vale	13,530	.....	158	32	57	...	..	59	...	6	65	25	...	...	...	...	...	...	...	.....	.....	25	
Myrtle Creek	4,450	300	52	9	9	...	...	29	16	3	48	91	...	...	...	...	...	...	...	1	.....	92	Free, by Guarantors.
Myrtleville	3,050	.....	...	...	...	...	...	11	.	...	11	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Nabiac	5,320	.....	173	13	36	...	...	57	...	7	64	22	...	...	...	...	...	...	...	.....	.....	22	
Nadjingomar	2,250	.....	...	...	...	...	...	39	...	...	39	11/10/-	...	...	...	...	...	...	..	.....	.....	11/10/-	
Nambucca Heads	7,700	1,490	289	55	61	75	15	49	92	15	156	130	..	78	...	...	...	...	...	2/10/-	20	230/10/-	Rented.

Nambucca Heads Pilot Station.	.....	154	...	...	...	...	...	.....	7	...	7	26	...	...	...	...	...	...	...	.....	.....	26	At Pilot Station.
Nana Glen	3,570	.....	...	...	...	...	...	42	...	...	42	13	...	...	...	...	...	...	...	.....	.....	13	
Narara	2,050	.....	...	...	...	...	...	25	...	...	25	10/10/-	...	...	...	...	...	...	...	5	.....	15/10/-	
Narellan	17,180	228	...	...	...	...	...	158	13	...	171	65/10/-	...	...	...	...	...	...	...	.....	.....	65/10/-	
Narooma	6,150	399	125	42	49	...	...	36	23	6	65	45	...	..	...	...	...	...	...	.....	.....	45	
Narrabri	233,630	17,035	2,491	1,057	1,119	1,016	517	1,872	1,190	81	3,143	281	160	180	135	...	...	150	26	161	.....	1,294	Govt. building.
													91	110					Cadet.				
Narrabri Railway Station.	.....	*a*	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Narrabri West ...	228,750	5,285	950	201	219	345	139	403	286	40	729	130	..	100	...	...	52	...	...	28	15	325	Rented.
Narramine	56,300	3,142	851	119	173	144	89	596	180	39	815	209	...	...	...	...	52	...	...	43	6/10/-	310/10/-	do.
Narramine Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Narrandera	342,740	11,786	2,325	1,009	1,290	755	408	2,310	751	113	3,174	254	180	170	110	...	2 at 52	...	26	174/16/-	.....	1,233/16/-	Govt. building.
													100	115	...	...	...	...	Cadet.				
Narrawa	6,290	.....	...	...	...	...	...	96	...	...	96	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Narrow Plains[35] ...	960	.....	...	...	...	...	...	3	...	...	3	10	...	...	...	...	...	...	...	.....	.....	10	
Nelligen	13,540	711	542	92	98	34	20	126	41	22	189	200	...	...	...	...	52	...	...	2	35	289	Rented.
Nelson's Bay	6,340	625	123	427	612	40	13	65	32	6	103	100	...	...	...	...	...	...	...	9	.....	109	Govt. building.
Nelson's Plains ...	2,290	.....	...	...	...	...	...	13	...	...	13	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Nerriga.....	5,640	.....	91	30	12	...	...	52	...	4	56	23/10/-	...	...	...	...	...	...	...	.....	.....	23/10/-	
Nerrigundah	5,760	.....	193	31	38	...	...	75	...	11	86	22/10/-	...	...	...	...	...	...	...	.....	.....	22/10/-	
Neurea	4,410	.....	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Neutral Bay	42,660	994	110	156	159	215	127	120	37	5	162	100	...	...	...	...	52	...	...	5/4/-	65	222/4/-	Rented.
Never Never.....	3,230	.....	...	...	...	...	...	17	...	...	17	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Nevertire	49,050	3,097	1,072	105	134	118	58	385	178	41	604	140	...	...	...	...	52	...	...	33	20	245	Rented.
Nevertire Railway Station.	.....	.....	...	...	...	...	...	3	...	...	3	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Neville	7,320	221	...	...	...	...	...	99	12	...	111	34/10/-	...	..	...	...	...	...	...	.....	.....	34/10/-	
New Angledool ...	19,330	2,439	481	64	35	97	40	200	176	23	399	160	...	110	...	...	...	...	...	44	40	354	Rented.
Newbridge	19,120	798	356	180	240	138	60	185	42	18	245	140	26	...	...	...	...	...	...	14	26	206	do
Newbridge Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Newcastle	1,116,980	41,981	4,137	7,144	9,207	4,123	2,082	7,445	4,827	278	12,550	380	254	200	155	65	7 at 52	150	100	385/10/-	.....	5,324/10/-	Govt. building.
												335	200	3 at 190	2 at 115	52	26	150	Stamper and sorter.				
													160	2 at 140	110				200				
													140	130	100				Telephone fitter.				
													130	120	91				78				
													78						65				
																			26				
																			Switch attendants.				
Newcastle Railway Station.	.....	1,594	...	...	...	...	...	.....	105	...	105	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Newcastle West ...	112,350	5,066	1,530	556	2,226	1,115	540	809	281	79	1,169	150	...	100	...	...	52	...	...	.....	104	406	Rented.
New Italy	2,500	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
New Lambton.....	8,610	191	178	191	187	179	105	65	9	7	81	100	13	...	...	...	...	...	...	2	.....	115	Govt. building.
Newport	7,120	371	...	...	...	...	...	41	20	...	61	100	...	...	...	...	...	...	...	1	30	131	Rented.
Newrybar.....	2,740	.....	...	...	...	...	...	31	...	...	31	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Newton Boyd	.....	114	...	...	...	...	...	.....	7	...	7	150	...	...	...	...	...	...	...	37/10/-	.....	187/10/-	Govt. building.
Newtown	1,400,810	11,110	2,980	4,603	10,377	11,598	5,622	4,139	544	154	4,837	299	180	200	170	88	3 at 52	...	2 at 78	156	.....	3,625	do
													100	180	155	78	39		39				
														78	145	65			Switch attendants.				
															2 at 140								
															130								
															125								
															3 at 115								
															110								
															3 at 91								
															78								
Niangala	5,470	.....	58	9	8	...	...	25	...	5	30	19/10/-	...	...	...	...	...	...	...	.....	.....	19/10/-	

(*a*) Telegraph returns included in Narrabri West. NOTE.—For other references see page 57.

Name of Office	Business transacted							Revenue				Expenditure											Arrangements as regards Premises
												Salaries								Allowances	Rent of Office	Total	
	No of Letters posted	No of Telegrams Transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal	Telegraphic	Money Order and Postal Note	Total	Officers in charge	Assistants	Operators	Letter Carriers	Mail Boys	Messengers	Line Repairers	Other Employés				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Nimbin	280							8			8	10/10/-										10/10/	
Nimitybelle .	18,560	1,015	496	63	76	41	30	208	57	23	288	120					39			4		163	Govt building
Nine mile	28,710	179						51	12	2	65	45/10/										45/10/	
North Berry Jerry	4,460							57			57	22/10/										22/10/	
North Botany	52,130	833	381	152	296	626	245	127	29	18	174	120			120	78	52			65/2/	52	487/2/-	Rented
North Gobarralong	990							10			10	10/10/										10/10/-	
North Parramatta	32,120	1,489	377	67	223	293	181	479	60	19	558	110	78			78					39	305	Rented
North Pymlico	2,370							67			67	17										17	
North Richmond	8,310	327						111	20		131	56/10/										56/10/	
North Ryde	9,940	221						76	7		83	20			52					45		117	
North Springwood	1,350							36			36	11								35		46	
North Sydney .	548,100	7,604	1,784	1,936	3,270	4,088	1,923	2,558	578	90	3,226	326	140 110	160 91	145 135 125 115 110 100 2 at 91 6 at 78	78 2 at 52	4 at 52 39 26		3 at 78 switch attendants	488/10/	36/8/ stabling	3,420/18/-	Govt building
North Tumbulgum	3,790							22			22	19/10/					.					19/10/	
Nowendoc	2,020							48			18	14										14	
Nowra	124,990	5,312	1,920	671	1,003	636	267	978	317	76	1,371	209	25	110 100	91		52			43		630	Govt building.
Nubba	4,350							10			10	11										11	At Railway Station.
Nullamanna	2,580							28		.	28	10/10/-										10/10/	
Numba	4,770		136	8	9	15	11	45		6	51	31										31	
Number One	1,000							11			11	10/10/-										10/10/	
Numbugga	2,210							18			18	13										13	
Numeralla	1,840							26			26	24										24	
Nundle .	27,810	951	382	130	93	126	73	164	81	19	264	140	10							5	52	207	Rented.
Nunnagoyt	1,130							15			15	10/10/-										10 10/-	
Nymagee	33,750	3,105	1,234	200	108	232	85	472	192	54	718	218	. .	120			52			43		433	Govt building
Nymboida	2,260							12			12	10/10/	.									10/10/-	
Nyngan .	151,840	5,984	2,063	876	973	552	316	909	372	89	1,370	281	.	180 120	91		52			41/10/		765/10/-	Govt building
Nyngan Railway Station		2,232							158		158												At Railway Station.
Oaklands	2,930							38		.	38	17	.								.	17	
Oakwood	5,000							16			16	13/10/										13/10/	
Oatley's		(a)						5			5												At Railway Station.
Oban	1,190							16		1	17	13/10/-							.			13/10/	
Oberon	30,390	722	598	211	268	231	87	306	37	27	370	190		78						4		272	Govt building
Obley	12,940	539	201	20	27	49	19	50	33	8	91	130								2	25	157	Rented
O'Connell	12,110	214	257	79	104			112	12	10	134	64/10/-										64/10/-	
Old Junee	12,810	358	154	25	31	37	6	130	22	7	159	30										30	At Railway Station.
Olinda	3,850							49			49	10										10	
Omega	1,350							30			30	11				..		.				11	
One Tree[4]	1,640							8			8	10										10	
Ophir	570							10			10	10/10/										10/10/-	
Orange	708,930	12,300	2,623	2,793	4,693	1,723	961	2,765	917	171	3,853	353	218 120	218 200 160 130	130 91	78	3 at 52	150		149/10/		2,153/10/	Govt building
Orange Rail'y Stn		341							21		21		...										At Railway Station.

Orton Park	2,640	.....	...	...	...	...	...	.....	...	...	.....	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Orundumbi	560	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Otford	2,590	49	...	...	...	...	...	57	3	...	60	20	...	...	...	...	...	...	...	.....	.....	20	At Railway Station.
Ourimbah	6,350	241	...	...	...	...	...	95	13	3	111	22	...	...	...	...	...	...	...	.....	.....	22	do
Overton	2,520	.....	...	...	...	...	...	41	...	...	41	11	...	..	...	...	...	...	...	.....	.....	11	
"*Oxford Hotel*"	.....	11,732	...	...	...	...	...	.. ...	562	...	562	120	..	...	...	...	...	..	...	.....	.....	120	
Oxford-street	576,000	16,568	2,118	3,119	16,630	8,708	4,733	2,552	724	137	3,413	254	180 2 at 100 78	2 at 170 78	...	...	6 at 52	..	...	5	260	1,629	Rented.
Oxley	15,060	1,190	162	24	19	65	22	198	80	9	287	180	...	...	...	...	52	...	...	23	45	300	do
Oxley Island	2,980	.....	...	...	...	...	...	13	...	...	13	13/10/-	...	..	...	...	...	...	...	.....	.....	13/10/-	
Paddington	234,510	11,612	1,408	3,286	4,007	4,201	2,299	1,684	539	79	2,302	236	78	180 100	...	...	4 at 52	...	...	5	.....	807	Govt. building.
Pallamallawa	4,370	.....	..	...	...	...	...	18	...	...	18	15/10/-	...	...	...	..	...	...	...	.....	.....	15/10/-	
Palmer's Island	10,010	820	325	102	124	43	54	82	38	16	136	110	78	...	...	...	...	...	...	3/10/-	15	206/10/-	Rented.
Palmer's Oakey	2,250	.....	...	...	...	...	...	17	...	...	17	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Pambula	40,740	3,018	714	235	404	153	65	349	191	34	574	190	40	78	...	...	39	...	...	29/10/-	75	451/10/-	Rented.
Pampoolah	2,770	.....	...	...	...	...	...	14	...	...	14	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Parkes	252,990	8,313	2,589	908	934	603	392	1,643	502	118	2,263	254	...	200 100 91	100	...	52	...	...	41/16/-	.....	838/16/-	Govt. building.
Parkes Railway Station.	.....	.....	...	...	...	...	..	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Park-street	462,140	21,500	3,055	1,279	6,508	3,884	2,620	2,354	1,043	182	3,579	254	180	100 78	...	...	2 at 52	...	...	65	400	1,181	Rented.
Parkville	4,130	.....	...	...	...	...	...	69	...	...	69	19/10/-	...	...	...	...	...	...	...	20	.....	39/10/-	
Parliament House[42]	47,580	3,186	2	...	2	...	...	226	157	1	384	236	...	190	...	...	2 at 52	...	...	.....	.....	530	Govt. building.
Parramatta	1,119,470	12,162	1,901	3,005	6,264	3,175	1,834	2,510	491	118	3,119	353	209 160 150	2 at 170 ...	2 at 155 145 130 2 at 120 105 2 at 91	78 65	3 at 52 39	..	2 at 52 39 Switch attendants.	192	.....	3,017	do
Paterson	28,910	993	199	130	104	125	65	214	57	12	283	180	...	150	...	...	...	...	...	4/10/-	.....	334/10/-	Govt. building.
Peak Hill	41,980	2,921	1,051	305	232	369	239	429	181	51	661	160	52	...	...	...	26	...	...	5	52	295	Rented.
Peakhurst	4,450	.....	...	...	...	...	...	... ..	...	...	.....	13	...	...	...	...	...	...	...	42	.....	55	
Pearce's Creek	1,270	... ..	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Peel	10,720	.....	...	...	...	...	...	51	...	...	51	41	...	...	...	...	...	...	...	.....	.....	41	
Peelwood	6,490	.....	123	26	24	...	...	35	...	5	40	25	...	...	...	..	...	...	...	.....	.....	25	
Pejar	1,300	.....	...	...	...	...	...	16	...	...	16	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Pelican Island	1,560	.....	..	...	...	...	...	10	...	...	10	10/10/-	..	...	...	...	...	...	...	.....	.....	10/10/-	
Pennant Hills	4,760	218	...	...	...	...	...	.. ...	7	...	7	34	...	...	...	...	...	...	...	12	.....	46	
Penrith	126,380	3,062	1,671	999	2,012	1,111	558	1,192	191	76	1,459	280	...	170 100	78	...	52	...	...	48/10/-	.....	728/10/-	Govt. building.
Penrith Railway Stn.	.....	608	..	...	...	...	...	.....	34	...	34	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Pericoe	2,430	.....	...	...	...	...	...	14	...	...	14	11	...	...	...	...	...	...	...	25	.....	36	
Perricoota	2,900	.....	...	...	...	...	...	12	...	...	12	12/10/-	...	...	..	...	...	...	...	.....	.....	12/10/-	
Perth	18,140	332	...	..	...	...	...	129	16	...	145	32	...	...	...	...	...	...	...	.....	.....	32	At Railway Station.
Petersham	581,860	6,098	750	1,495	2,468	2,029	926	1,370	250	54	1,674	299	91	180 100	170 135 130 125 120 115 2 at 100 2 at 78	78	4 at 52	...	3 at 39 Switch attendants.	269	.....	2,493	Govt. building.
Picton	118.450	2,415	1,028	527	650	571	263	612	138	50	800	209	...	100	65	...	52	...	...	46/10/	.....	472/10/-	Govt. building.
Picton Lakes	750	61	...	...	...	...	...	.....	4	...	4	10	...	...	...	...	...	...	...	.. ...	.....	10	At Railway Station.
Picton Railway Stn.	.....	.....	...	...	...	...	..	1	...	...	1	...	...	...	...	...	...	...	...	.....	.....	.....	do
Pilliga	27,980	1,558	368	62	46	105	48	410	104	19	533	190	...	78	...	...	...	...	...	5	.....	273	Govt. building.
Pine Ridge	1,760	549	...	..	..	...	...	47	34	...	81	93	...	..	...	...	...	...	...	1/10/-	.....	94/10/-	Free, by Guarantors.
Pinnacles	1,400	.....	...	...	...	...	...	9	...	...	9	26	...	...	...	...	...	...	...	.....	.. ...	26	

(*a*) Telegraph returns included in Sutherland. NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Pipeclay Creek	.....	398	...	...	...	...	...	.....	28	...	28	26	...	...	...	...	...	...	...	.....	.....	26	
Piper's Flat	2,460	89	...	...	...	...	...	33	5	...	38	21	10	...	...	...	...	...	...	20	... ..	51	At Railway Station.
Pitt Town	7,970	.....	...	...	...	...	...	46	...	...	46	24/10/-	...	...	...	...	...	...	...	.....	.....	24/10/-	
Pitt Town Co-operative Settlement.[18]	1,700	.....	...	...	...	...	...	7	...	...	7	10	...	...	...	...	...	...	...	.....	.....	10	
Pleasant Hills	2,800	.....	...	...	...	...	...	45	...	...	45	17	...	...	...	...	...	...	...	.....	.....	17	
Plumpton	7,530	.....	141	89	115	36	52	73	...	7	80	32	...	...	...	...	...	...	...	25	.....	57	
Pokolbin	6,190	.....	...	...	...	...	...	21	...	...	21	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Ponto	2,710	.....	...	...	...	...	...	26	...	...	26	12	...	...	...	...	...	...	...	.....	.....	12	
Pooncarie	11,920	1,136	169	14	26	...	...	204	90	9	303	180	...	...	...	...	...	...	...	65/4/6	.....	245/4/6	Govt. building.
Portland	7,450	.....	...	...	...	...	...	133	...	2	135	13/10/-	...	...	...	...	...	...	...	5	.....	18/10/-	
Port Macquarie ...	90,420	4,138	984	254	461	189	63	505	259	41	805	227	91	130	78	...	...	...	...	7/10/-	.. ...	533/10/-	Govt. building.
Port Macquarie Heads	.....	.....	...	...	...	...	...	.....	..	...	.....	26	...	...	...	...	...	...	...	.....	.....	26	At Pilot Station.
Port Stephens	.....	*	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.. ...	.....	.....	do
Preston's	1,160	.....	...	...	...	...	...	6	...	...	6	10	...	...	...	...	...	...	...	.....	.....	10	
Prospect	3,540	.....	...	...	...	...	...	17	...	...	17	18/10/-	...	...	...	...	...	...	...	.....	.....	18/10/-	
Prospect Reservoir[4] ..	4,130	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Purnamoota	840	.....	...	...	...	...	...	5	...	...	5	10	...	...	...	...	...	...	...	.....	.....	10	
Putty	1,970	.....	...	...	...	...	...	29	...	...	29	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Pymble.....	8,270	469	...	...	...	...	...	58	14	...	72	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Pyree	4,680	.....	...	..	...	...	...	30	...	..	30	20	...	...	...	...	...	...	...	.....	.....	20	
Pyrmont.....	78,760	5,633	577	960	2,188	1,439	736	507	268	37	812	218	...	2 at 78	...	...	52 39	...	...	.....	80	545	Rented.
Quaama	6,950	202	101	9	29	...	...	65	11	4	80	50	...	...	...	...	...	...	...	.....	.....	50	
Quambone	15,930	.....	...	...	...	...	...	207	...	..	207	32/10/-	...	...	...	...	...	...	...	.....	.....	32/10/-	
Queanbeyan.....	56,570	2,970	1,728	477	970	436	166	823	199	78	1,100	299	...	91	91	...	26	...	...	29	.....	536	Govt. building.
Quipolly	820	.....	...	...	...	...	...	2	...	...	2	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Quipolly Creek ...	1,940	.....	...	...	...	...	...	6	...	...	6	17/10/-	...	...	...	...	...	...	...	12	.....	29/10/-	
Quirindi	139,870	5,542	1,211	692	1,178	503	269	1,054	361	77	1,492	254	140	100	78	...	39	150	...	78	.....	839	Govt. building.
Quirindi Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	... .	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Raglan	3,480	46	...	...	...	...	...	32	2	...	34	31	...	...	...	...	...	...	...	.. ...	.....	31	do
Rainbow Reach ...	580	.....	...	...	...	...	...	11	...	...	11	11	...	...	...	...	...	...	...	.....	.....	11	
Ramornie.....	3,510	589	...	...	...	...	...	.....	50	...	50	10/10/-	...	Nil.	...	...	...	...	...	.....	.....	10/10/-	
Randwick	170,070	6,032	456	821	1,507	936	447	827	272	29	1,128	209	...	120 100	110 100 3 at 91 78	65	52 39	...	3 at 39 Switch Attendants.	182/10/-	150	1,595/10/-	Rented.
Rankin's Springs..	3,100	.....	...	...	...	...	...	46	...	...	46	36	...	...	...	...	...	...	...	.....	.....	36	
Ravensworth	6,390	227	83	22	29	20	8	69	13	6	88	27	...	...	...	...	...	...	...	.....	.....	27	At Railway Station.
Rawden Vale	3,030	.....	..	...	...	...	...	14	...	...	14	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Rawdon Island ...	2,040	.....	...	...	...	...	...	13	...	...	13	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Raymond Terrace	44,340	1,897	370	272	442	217	95	361	110	23	494	236	...	120	91	...	39	...	...	33/10/-	.....	519/10/-	Govt. building.
Razorback	.....	†	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Reddestone	1,610	.....	...	...	...	...	...	24	...	...	24	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Redfern	375,080	6,726	2,742	3,729	3,841	6,436	3,385	2,868	301	136	3,305	218	140 110	2 at 140 78	160 145 130 3 at 115 2 at 100 2 at 91 2 at 78	3 at 78	2 at 52	...	...	156	.....	2,638	Govt. building.
Redfern Railway Station.	.....	22,609	...	...	...	...	..	.....	1,082	...	1,082	...	65	...	...	..	52	...	..	.....	.....	117	Govt. building.

Red Range	1,650	.....	..	...	...	...	...	38	...	...	38	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Reefton[43]	8,820	.....	143	16	53	...	...	101	...	7	108	10	...	...	...	...	...	...	...	18	.....	28	
Reidsdale	2,320	.....	...	...	...	...	...	12	...	...	12	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Reid's Flat	2,530	.....	...	...	...	...	...	25	...	...	25	20	...	...	...	...	...	...	...	.....	.....	20	
Richmond	166,220	3,891	611	482	937	493	267	863	227	46	1,136	180	50	110 91	104	..	52	...	...	69	.....	656	Govt. building.
Richmond Railway Station.	.....	.....	...	..	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Riley's Hill	4,820	.....	...	...	...	...	...	93	...	4	97	13	...	...	...	...	...	...	...	5	.....	18	
Riverstone	31,810	1,010	347	218	467	415	185	270	61	28	359	150	78	...	...	...	...	...	...	23	.....	251	At Railway Station.
Riverstone Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	do
Rix's Creek	620	.....	...	...	...	..	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Robertson	28,760	1,088	373	87	167	115	33	251	59	18	328	180	20	...	...	...	39	...	...	43	....	282	Govt. building.
Rob Roy	1,520	.....	...	...	...	...	...	9	...	...	9	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Rockdale	85,350	2,810	465	486	911	1,323	561	519	99	28	646	150	...	100	91 2 at 78	...	52	...	...	148	.....	697	Govt. building.
Rock Flat	3,050	.....	...	...	...	...	...	12	...	...	12	13	...	...	...	...	...	...	...	.....	.....	13	
Rockley	41,880	962	542	150	148	69	53	250	54	21	325	190	20	...	...	...	26	...	...	4	.....	240	Govt. building.
Rockwell	900	.....	...	...	...	...	...	10	..	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Rocky Glen	3,690	.....	...	...	...	...	...	23	...	...	23	23/10/-	...	...	...	...	...	...	...	.....	.....	23/10/-	
Rocky Hall	3,680	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Rocky Plain	1,070	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Rocky River	3,420	.....	...	...	...	...	...	80	...	...	80	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Rolland's Plains	4,150	160	87	16	16	...	...	61	8	3	72	59/10/-	...	...	...	...	...	...	...	.....	.....	59/10/-	
Rookwood	58,880	1,407	170	437	554	625	321	260	52	17	329	160	...	...	78	...	52	...	...	66/10/-	26	382/10/-	Rented.
Rooty Hill	13,620	779	125	217	196	...	...	89	43	6	138	29	...	...	...	..	...	...	...	.....	.....	29	At Railway Station.
Rose Bank	660	.....	...	...	...	...	..	10	...	...	10	10/10/-	...	...	...	...	...	...	...	... ..	... ..	10/10/-	
Rosedale	2,310	.....	...	...	...	...	...	31	...	...	31	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Rose Valley	1,380	.....	...	...	...	...	...	9	...	...	9	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Rosewood	4,120	.....	...	...	...	...	...	27	...	...	27	17	...	...	...	...	...	...	...	.....	.....	17	
Rothbury	2,380	... ..	...	...	...	...	...	51	...	...	51	13/10/-	...	...	...	...	...	...	...	.....	.....	13/10/-	
Rouchell Brook	4,010	.....	...	...	...	...	...	30	...	...	30	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Round Hill	3,150	.....	...	...	...	...	...	30	...	...	30	12	...	...	...	...	...	...	...	.....	.....	12	
Rous	2,920	.....	...	...	...	...	...	42	...	...	42	21	...	...	...	...	..	...	...	.....	.....	21	
Rouse Hill	7,520	.....	...	...	...	...	...	95	...	...	95	24	...	...	...	...	...	...	...	.....	.....	24	
Rous Mill	11,010	714	258	24	22	...	...	91	44	16	151	63	...	...	...	...	...	...	...	.....	.....	63	
"Royal Hotel"	.....	5,327	...	..	...	...	...	62	334	...	396	180	...	...	...	...	...	...	...	.....	.... .	180	
Rozelle	426,620	3,327	898	544	1,314	3,437	1,350	920	136	46	1,102	130	91	120 78	155 2 at 145	...	2 at 52	...	...	146	.....	1,114	Govt. building.
Rydal	24,950	197	259	122	87	52	24	94	11	14	119	75	10	...	...	...	...	...	...	.....	.....	85	At Railway Station.
Rydalmere	9,110	244	...	..	...	...	...	80	8	...	88	20	...	...	52	..	...	...	...	36/10/-	.....	108/10/-	
Ryde	120,500	1,953	183	267	582	399	192	344	80	14	438	180	...	...	135 78	...	52	...	...	78	35	558	Rented.
Ryde Railway Station.	.....	245	...	...	...	...	...	.....	8	...	8	...	...	...	...	...	...	...	..	.....	.....	.....	At Railway Station.
Rye Park	6,440	.....	207	44	29	...	...	73	...	7	80	24/10/-	...	...	...	...	...	...	...	.....	.....	24/10/-	
Rylstone	49,170	2,016	675	367	456	272	109	496	127	36	659	190	78	...	65	...	...	...	...	2	.....	335	Govt. building.
Rylstone Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.. ...	At Railway Station.
Sackville Reach[44]	4,630	25	...	...	...	...	...	79	1	..	80	30	...	...	...	...	...	...	...	.....	.....	30	
St. Albans	5,380	245	220	57	34	...	...	53	15	10	78	49	...	...	...	...	...	...	...	.....	.....	49	
St. Clair	700	.....	...	...	...	...	...	10	...	...	10	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
St. Ives	3,180	.....	...	...	...	...	...	29	...	...	29	11/10/-	...	...	...	...	...	...	...	20	.....	31/10/-	
St. John's Park	2,940	.....	...	...	...	...	...	11	...	...	11	11	...	...	...	...	...	...	...	.....	.....	11	
St. Leonard's Creek	790	.....	...	..	...	...	...	33	...	...	33	10/10/-	...	...	...	...	...	...	...	17/10/-	.....	28	
St. Mary's	41,830	1,223	436	477	770	420	237	429	66	22	517	160	20	...	91	...	...	...	...	48/15/-	.....	319/15/-	Govt. building.
St. Mary's Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
St. Peter's	41,800	1,226	274	431	502	962	493	300	44	14	358	180	...	110	120 105	...	52	...	...	54/10/-	.....	621/10/-	Govt. building.
Salisbury Plains	830	.....	...	...	...	...	...	12	...	...	12	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Saltash	620	.....	...	...	...	...	...	17	...	...	17	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	

* Telegraph returns included in Nelson's Bay. † Telegraph returns included in Breadalbane. NOTE.—For other references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams Transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic	Money Order and Postal Note.	Total.	Officers in charge.	Assistants.	Operators.	Letter Carriers	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Sandy Flat	3,210	.....	...	...	...	...	...	.....	...	...	.....	13	...	...	...	...	...	...	...	.....	.....	13	At Railway Station.
Sandy Hill	1,660	.....	...	...	...	...	...	21	...	...	21	17/10/-	...	...	...	...	...	...	...	.....	.....	17/10/-	
Sans Souci[41]	4,780	277	...	...	...	...	...	27	9	...	36	64	...	...	...	...	...	...	...	36/10/-	.....	100/10/-	
Savernake[45]	2,120	.....	...	...	...	...	...	20	...	...	20	10	...	...	...	...	...	...	...	.....	.....	10	
Scone	89,040	4,869	1,485	465	697	311	163	1,254	307	67	1,628	160	...	110	78	...	...	...	26,cadet 91	41/10/-	.....	506/10/-	Govt. building.
Scone Railway Station	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Scott's Flat	1,390	.....	...	...	...	...	...	17	...	...	17	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Seaham	9,020	131	...	...	...	...	...	30	7	...	37	52/10/-	...	...	...	...	...	...	...	.....	.....	52/10/-	
Seal Rocks	.....	138	...	...	...	...	...	.....	10	...	10	52	...	...	...	...	...	...	...	.....	.....	52	At Lighthouse.
Sebastopol	3,310	.. ...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Sedgefield	730	.....	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Seven Hills	8,130	225	...	...	...	...	...	63	12	...	75	26	...	...	...	...	...	...	...	.....	.....	26	At Railway Station.
Shaw	1,450	.....	...	...	...	...	...	11	...	...	11	11	...	...	...	...	..	...	...	.....	.....	11	
Shellharbour	20,150	625	310	107	190	86	40	163	32	10	205	92/10/-	...	...	...	...	...	...	...	.....	... ..	92/10/-	
Shepard's Town	5,490	.....	...	...	...	...	...	44	...	...	44	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Sherbrooke	1,760	.....	...	...	...	...	...	26	...	...	26	11	...	...	...	...	...	...	...	20	.....	31	
Sherwood	1,520	.....	...	...	...	...	...	10	...	...	10	11/10/-	...	...	...	...	...	...	...	.....	.....	11/10/-	
Shooter's Hill	2,650	.....	...	...	...	...	...	31	...	...	31	11	...	...	...	...	...	...	...	.....	.....	11	
Silverton	11,320	1,331	269	51	35	129	48	79	88	15	182	254	...	...	78	...	...	...	...	11/1/8	45/10/-	388/11/8	Rented.
Singleton	316,370	5,889	2,171	1,263	2,090	1,147	574	1,751	375	110	2,236	308	180	120	135	...	2 at 52	...	...	108	.....	1,280	Govt. building.
												...	120	100	105	...	...	...	...	.....	.....	.....	
Singleton Railway Station.	.....	1,257	...	...	...	...	..	.....	68	...	68	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Sixteen-mile Tank	1,120	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	10	.....	20	
Skillion Flat	1,280	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Smithfield	23,620	437	146	182	319	237	133	115	24	10	149	73	...	...	26	...	...	...	...	39	.....	138	
Smith Town	9,350	557	235	46	42	74	13	77	31	11	119	100	...	...	...	...	52	...	...	3/10/-	39	194/10/-	Rented.
Smoky Cape	.....	11	...	...	...	...	...	.....	1	..	1	26	...	...	...	...	...	...	...	.....	.....	26	At Signal Station.
Sofala	19,820	728	410	148	168	86	107	191	42	17	250	190	...	...	...	...	26	...	...	3	.....	219	Govt. building.
Somerton	6,170	.....	103	6	6	...	...	55	...	5	60	29/10/-	...	...	...	...	...	...	...	.....	.....	29/10/-	
South Bowenfels	9,400	.....	161	16	...	...	...	55	...	5	60	26/10/-	...	...	...	...	...	...	...	.....	.....	26/10/-	
South Broken Hill	33,500	1,643	1,509	342	97	1,454	457	348	118	66	532	180	...	...	78	...	52	...	...	84	58/10/-	517/10/-	Rented.
															65								
South Clifton	.....	65	...	...	...	...	...	.....	4	...	4	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Southdown[46]	600	.....	...	...	...	...	...	.....	...	...	.....	5	...	...	...	...	...	...	...	.....	... ..	5	
Southgate	4,570	140	...	...	...	...	...	28	8	1	37	50	...	...	...	...	...	...	...	.....	... ..	50	
South Grafton	80,460	2,778	839	307	404	182	131	524	182	34	740	236	50	91	65	52	...	...	...	42/10/-	.....	536/10/-	Govt. building.
South Gundagai	6,430	.....	...	...	...	...	...	34	...	...	34	34	...	...	...	...	...	...	...	.....	.....	34	
South Head	.....	823	...	...	...	...	...	.....	27	...	27	91	...	...	...	...	52	...	...	36/10/-	.....	179/10/-	At Signal Station.
South Murwillumbah	3,240	.....	...	...	...	...	...	13	...	...	13	10	...	...	...	...	...	...	...	.....	.....	10	
South Solitary Signal Station.	.....	*a*	...	...	...	...	...	.....	...	...	... ..	110	...	...	...	...	...	...	...	.....	.....	110	do
South Woodburn	20,460	1,951	680	145	64	150	77	178	119	28	325	190	...	150	...	...	...	...	...	4/5/-	.....	344/5/-	Govt. Building.
Spicer's Creek	3,640	.....	...	...	...	...	...	30	...	1	31	12	...	...	...	...	...	...	...	.....	.....	12	
Springbrook	1,900	.....	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Spring Hill	7,750	186	107	35	43	36	20	26	10	6	42	30	5	...	...	...	...	...	...	.....	.....	35	At Railway Station.
Springside	990	.....	...	...	...	...	...	16	...	...	16	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Springwood	25,540	1,329	250	156	309	136	88	296	81	19	396	130	...	...	91	...	...	...	...	64/4/-	13	298/4/-	Rented.
Springwood Railway Station.	.....	.....	...	...	...	...	...	1	...	...	1	...	..	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Stanborough	2,630	.....	...	...	...	...	..	.....	...	...	.....	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Stannifer	3,430	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	... ..	.....	10/10/-	
Steinbrook	400	.....	...	...	...	...	...	.....	...	...	.....	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	

Stewart's Brook	5,690	340	160	27	15	...	...	126	26	6	158	46/10/-	...	...	...	..	...	...	...	.. .	.	46/10/-	
Stock Exchange	...	16,217	..	..	..	...	.	...	1,687	...	1,687	218	...	...	..	..	52	...	...	...	75	345	Rented.
Stockinbingal	7,600		..	..	..	..	.	25		..	25	13	...	..		..	.	.	.	10	.	23	
Stockton	34,120	1,159	488	408	373	505	326	307	72	26	405	236	78	.	105	.	.			43/10/-	33/16/-	496/6/-	Rented.
Stockyard Creek	1,050					.	.	11			11	10/10/-	...	..		.		.		.	.	10/10/-	
Stonehenge	2,360				..	..	.	15			15	11	.	..	..	...	..			20	. ..	31	
Stony Creek	2,320					.	.	11			11	13	.		.	.	.		.			13	
Stony Crossing	2,880				..			12			12	10/10/-	..		.		.			.. .		10/10/-	
Strathfield	242,030	5,941	431	239	745	..		967	225	32	1,224	130		78	120		52	..	..	86	70	653	Rented.
															78		39						
Stroud	28,120	1,605	432	250	291	153	59	281	100	25	406	218	91	...	...		..	..	..	3	. . .	390	Govt. building.
													78										
Stuart's Point	1,690	848	..		..		..	1	25	.	26	36	..	..	...	.	..	...		5	6/10/-	47/10/-	Rented.
Stuart Town	30,810	827	898	219	175	258	118	313	60	39	412	120	...	.	...	..	52	...	..	2	... ..	174	Govt. building.
Stuart Town Railway Station.		.	.		..	..	...	.....	.	.	...	.	..	...	..	...	..	..	...	..	.. ...	.	At Railway Station.
Summer Hill	192,910	5,727	587	1,022	2,026	2,009	974	1,285	228	40	1,553	270	78	100	155	.	3 at 52	..	...	109/10/-	104	1,310/10/-	Rented.
															130		39						
															91								
															78								
Summer Island	1,650	. .	.				.	.. ..	..	.	. .	20	.		...	..	...	...	..	23	..	43	
Sunny Corner	27,330	999	868	447	373	193	109	411	78	49	538	180	20	.	65	..	..	..	...	40/10/-	.. .	305/10/-	Govt. building.
Sunnyside	630		.	..	..	.		3	.		3	11	..		...	..	..	.	...	. .		11	
Surry Hills	58,300	5,412	890	1,583	2,339	2,813	1,545	510	212	63	785	180	...	130	.	.	2 at 52	...	..	.	165	696	Rented.
														78			39						
Sussex-street	551,910	13,555	920	440	1,511	533	297	2,520	926	55	3,501	290	.	100			26	.	..	55	208	679	do
Sutherland	20,760	774	141	132	291	205	86	117	35	9	161	130		..		.	.	..		41	.	171	At Railway Station.
Sutton	3,220	.		.		.	.	43	.	.	43	10/10/-	.	...	...		...		..			10/10/-	
Sutton Forest	21,160	739	333	113	170	91	45	193	45	15	253	160	91	...	..		.	...	..	4	. .....	255	Govt. building.
Swamp Oak	8,510	.	136	9	14	..	..	75	.	5	80	24	.	..	.	..		.	.	. .	. . .	24	
Swan Bay	2,050	115	79	9	12	.		29	6	4	39	38	.		..	.	.	.	..	..		38	
Swansea	4,910	353	243	52	34	27	13	37	23	11	71	66	.	..		.	..			2	20/16/-	88/16/-	Rented.
Swan Vale	1,750		.	.	.	.	..	39		...	39	21	...	. .		.	..		.	. . .	. ..	21	
Sylvania	4,640		..		.			26		.	26	21/10/-	.	.			..		.	.		21/10/-	
Table Top	6,330	137		.	.			17	8	.	25	15	..	...	.		.	.	.		.	15	At Railway Station.
Tabulam	11,130	518	126	17	30	10	11	172	33	9	214	180	25	.		..	..	..	..	39/10/-	31/4/-	275/14/-	Rented.
Tacking Point	.	*b*	.	.		.	.			.	.	26	..	..	.	..	..		.	. .	..	26	
Tahlee	.	*c*			..	.		.	..	..	.. .			...				.	..	. .	..		
Tambaroora	6,770		170	56	80	.		65		7	72	71	.	...	..	..	..	.	..	20	...	91	
Tambar Springs	8,510	667	354	12	13	.		121	49	10	180	58/10/-			..	..	.	.	..		. ..	58/10 -	
Tamworth	698,730	14,307	2,300	2,956	4,773	1,867	922	2,572	1,060	142	3,774	353	209	218	155	.	3 at 52	150		191/12/-	.. .	2,687/12/-	Govt. building.
													120	170	115								
													100	160	110					.			
														120	78								
														100									
Tamworth Railw'y St														2 at 91									
		. ..	..	..	.			.	..		. .		.	...	..	.	.	..	.	. . .	. ...	.... .	At Railway Station.
Tangmangaroo	3,110	. .	.	.	..	..		19	..	..	19	19/10/-	.	..	...	..	.		.	..	. .	19/10/-	
Tanja	2,270	.	..	.				10	.	.	10	10/10/-	.	.	.	.	..	...	.	- .	.	10/10/-	
Tantawanglo	590	. .						6	. .		6	10/10/-		.	...	.	...	..	..	..	.	10/10/-	
Tarago	9,860	859	290	122	124	49	33	132	55	14	201	Nil	Nil		.	.	52		..	... .	.. .	52	At Railway Station.
Taralga[a]	47,670	933	673	111	131	39	9	344	60	24	428	200	65	.	..		.	..	..	2	45	312	Rented.
Taralga	22,610	296	337	72	99			130	19	13	162	45	10	.	..	.	52	..	..	.	.. .	107	At Railway Station.
Tarcutta[a]	13,980	336	205	29	47	12		128	24	8	160	140	.		.		.		..	2/10/-	. . .	142/10/-	Govt. building.
Taree	121,940	3,557	641	337	712	224	55	415	250	36	701	236	.	110	65	..	52	150	.	64/10/-	. .	777/10/-	do
														100									
Tareena	6,260	281	..	.		.		57	19	.	76	180		..	..	.	..	..	...	79/16/6	.. .	259/16/6	do
Tarlo	1,190	. .				.		20	..	.	20	20/10/-		.			.	.	.	.	... ..	20/10/-	
Tarlo Railway Station	4,330	..		.	.		.	53	.		53	10	..	.	.		...	...	..	. . .	. .	10	At Railway Station.
Tataila	750			..		.		10			10	10/10/-	..	.		..	..	.	...	.. ..	. . .	10/10/-	
Tatham	4,030	209	.		.	.		26	14	1	41	30				.			..		. .	30	Free, by guarantors.
Tathra	3,770	745	..		..	..		32	37	.	69	110	...	..			..	..	..	1/10/-	20	131/10/-	Rented.

a Telegraph returns included in Woolgoolga *b* Telegraph returns included in Port Macquarie *c* Telegraph returns included in Clarence Town. NOTE.—For other references see page 57

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter-carriers.	Mail-boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
"*Tattersall's*"	.....	7,945	...	...	...	...	...	112	410	...	522	170	...	...	...	...	...	...	...	.....	.....	170	
Taylor's Arm	1,200	.....	...	...	...	...	...	10	...	...	10	10|10|-	...	...	...	...	...	...	...	...	.....	.. ...	10|10|-	
Tea Gardens	7,620	618	145	81	160	63	17	42	41	7	90	120	...	...	...	...	...	...	...	2	21	143	Rented.
Telegraph Point	3,770	.....	...	...	...	...	...	44	...	...	44	27|10|-	...	...	...	...	...	...	...	...	.....	.....	27|10|-	
Temora	126,870	8,399	1,810	672	821	633	325	1,153	541	96	1,790	218	52	...	78	52	...	...	...	78	.....	478	Govt. building.
Tempe	8,980	.....	23	59	69	...	...	47	...	2	49	39|10|-	...	...	...	...	...	...	...	...	16	.....	55|10|-	
Tenandra	2,410	.....	...	...	...	...	...	21	...	...	21	21	...	...	...	...	...	...	...	.....	.....	21	
Tenterfield	121,490	4,805	1,183	667	1,166	608	247	1,143	367	65	1,575	299	91	200 140 130	115	...	...	175	...	117	.....	1,267	Govt. building.
Tenterfield Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Tent Hill	6,580	.....	...	...	...	...	...	37	...	...	37	18|10|-	...	...	...	...	...	...	...	...	.....	.....	18|10|-	
Teralba[26]	11,060	381	174	76	124	10	6	123	24	11	158	51	...	...	...	52	...	...	...	...	.....	103	At Railway Station.
Terara	9,250	453	155	40	127	57	27	52	24	7	83	58|10|-	...	...	...	...	...	...	...	1	20	79|10|-	Rented.
Termeil	1,470	.....	...	...	...	...	...	10	...	...	10	10|10|-	...	...	...	...	...	...	...	...	.....	.....	10|10|-	
Thackaringa	3,080	427	195	16	7	25	2	34	27	6	67	150	10	...	...	...	...	...	...	...	41	26	227	Rented.
Tharwa	5,360	.....	...	...	..	...	...	38	...	1	39	12	...	...	...	...	...	...	...	.....	.....	12	
The Exchange	976,020	72,942	1,791	22	839	...	...	5,139	10,722	146	16,007	218	140	190 150 120 78	...	78	52	...	...	40	200	1,266	Rented.
The Gulf	910	.....	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	.....	.....	10	
The Junction	27,170	.....	...	...	...	...	...	.....	...	...	.....	35|10|-	...	...	...	...	...	...	...	...	.....	.....	35|10|-	
The Lagoon	1,040	.....	...	...	...	...	...	9	...	...	9	11|10|-	...	...	...	...	...	...	...	...	.....	.....	11|10|-	
The Oaks	12,110	258	302	21	38	...	...	83	15	10	108	47	...	...	...	...	...	...	...	.....	.....	47	
The Reefs	3,150	.....	...	...	...	...	...	.....	...	...	.....	13	...	...	...	...	...	...	...	.....	.....	13	
The Rock	21,000	722	230	35	22	...	...	227	43	9	279	42	...	...	...	...	...	...	...	.....	.....	42	At Railway Station.
The Valley	3,640	.....	...	...	...	...	...	10	...	...	10	10|10|-	...	...	...	...	...	...	...	.....	.....	10|10|-	
Thirlmere	18,510	365	230	123	271	...	...	171	20	13	204	24	10	...	...	...	...	...	...	.....	.....	34	At Railway Station.
Thirroul	5,200	.....	118	87	93	...	...	53	...	7	60	25	...	...	...	...	...	...	...	.....	.....	25	do
Thornleigh	9,900	569	...	...	...	...	...	77	20	...	97	16	...	...	...	...	...	...	...	.....	.....	16	do
Thornton	.. ...	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	do
Thuddungra	4,930	.....	...	...	...	...	...	58	...	...	58	11|10|-	...	...	...	...	...	...	...	...	.....	.....	11|10|-	
Thurgoona	6,580	.....	...	...	...	...	...	83	...	...	83	27|10|-	...	...	...	...	...	...	...	...	.....	.....	27|10|-	
Tibooburra	15,700	1,844	380	44	30	84	14	354	136	16	506	110	...	78	...	...	...	...	...	44	65	297	Rented.
Tichborne	4,280	.....	...	...	...	...	...	26	...	...	26	11	...	...	...	...	...	...	...	15	.....	26	
Tighe's Hill	20,930	624	402	262	321	148	67	190	30	18	238	93	78	...	...	...	...	...	...	30	.....	201	
Tilba Tilba[47]	14,510	614	236	59	65	68	19	142	34	11	187	100	...	...	...	...	...	...	...	.....	6|10|-	106|10|-	Rented.
Tilpa	9,540	1,292	270	14	20	...	...	213	89	13	315	180	...	...	...	...	...	...	...	42	39	261	do
Timbarra	6,370	.....	...	...	...	...	...	34	...	...	34	15|10|-	...	...	...	...	...	...	...	.....	.....	15|10|-	
Timbery Range	3,410	.....	...	...	...	...	...	53	...	...	53	18	...	...	...	...	...	...	...	.....	.....	18	
Timbilica	740	.....	...	...	...	...	...	13	...	...	13	13|10|-	...	...	...	...	...	...	...	.....	.....	13|10|-	
Timbriebungie	3,020	.....	...	...	...	...	...	16	...	...	16	16|10|-	...	...	...	...	...	...	...	.....	.....	16|10|-	
Timor	3,960	.....	...	...	...	...	...	68	...	...	68	14	...	...	...	...	...	...	...	.....	.....	14	
Tingha	19,060	1,023	409	206	111	180	75	196	65	24	285	227	40	...	...	...	...	...	...	5	52	324	Rented.
Tinonee	19,210	540	211	57	77	57	20	160	32	8	200	190	100	...	...	...	...	...	...	3|10|-	.....	293|10|-	Govt. building.
Tintaldra (Victoria)	.....	.....	...	...	...	...	...	.....	...	...	.....	30	...	..	...	...	...	...	...	.....	.....	30	
Tintenbar	7,440	463	406	27	20	...	...	59	26	14	99	120	...	...	...	...	...	...	...	1|10|-	.....	121|10|-	Provided by Postmaster.
Tintin Hull	700	.....	...	...	...	...	...	8	...	...	8	10|10|-	...	...	...	...	...	...	...	.....	.....	10|10|-	
Tocumwal	30,240	2,669	563	85	142	117	54	395	150	30	575	227	20	110	...	...	...	...	...	4	52	413	Rented.
Tomago	2,100	.....	...	...	...	...	...	26	...	...	26	12	...	...	...	...	...	...	...	21	.....	33	
Tomerong	5,300	136	137	80	40	4	5	34	8	5	47	61|10|-	...	...	...	...	...	...	...	.....	.....	61|10|-	
Tomingley[48]	6,660	781	254	27	32	34	3	123	47	13	183	78	...	...	...	...	...	...	...	1	10	89	Rented.

Tongarra	1,490							21			21	10/10/-								35		45/10/-	
Toogong	6,260							24			24	24										24	
Tooloom	2,860							21			21	18										18	
Tooma	5,080	459						33	26		59	18		40								58	
Toongabbie	2,950							23			23	10/10/-										10/10/-	
Torrington	3,230							35		2	37	19/10/-										19/10/-	
Toronto	7,980	414	108	310	206	42	27	58	24	8	90	50					52			22	39	50 223	Rented.
Torrowangee	9,800	3,471	1,031	40	37	400	86	143	215	41	399	110										41/10/-	
Towamba	5,140	444	126	22	26			53	27	6	86	41/10/-										21	At Railway Station.
Towrang	7,040	84							5		5	21										256	Rented.
Trangie	54,310	2,583	1,105	145	202	118	55	462	163	49	674	160					52			24	20		At Railway Station.
Trangie Railway Station.																						21	
Trevallyn	4,690							35			35	21								22/10/-	30	178/10/-	Rented.
Trundle	25,190	1,208	330	39	37	48	31	264	73	14	351	100	26							2		167	Govt. building.
Trunkey Creek	24,040	1,056	539	108	128	78	76	205	77	24	306	100	65				52			3/10/-	30	185/10/-	Rented.
Tuena	9,540	834	373	50	73	28	11	118	55	15	188	100										10	
Tuggerah Lakes	2,060							21			21	10								4		274	Govt. building.
Tumbeiumba	40,200	2,028	832	176	172	172	74	550	132	38	720	150		120						4	39	163	Rented.
Tumbulgum	5,500	672	424	51	56	140	61	80	39	18	137	120										611/10/-	Govt. building.
Tumut	108,130	5,062	881	426	578	347	148	1,030	319	65	1,414	280	30	130 78			52			41/10/-			
Tuncurry	6,430							89		5	94	20								1/6/-		21/6/-	
Turlinjah	3,600							34			34	16										16	
Turramurra[48]	9,910	159						56	5		61	15										15	At Railway Station.
Tweed Heads	13,600	1,654	451	69	50	174	35	98	98	15	211	130								3/10/-	31/4/-	164/14/-	Rented.
Tweed Heads Signal Station.																							At Signal Station.
Two mile Flat	2,190							13			13	13/10/-								16		13/10/-	
Tyndale	1,360							15			15	12/10/-										28/10/-	
Tyringham	2,450							4			4	12										12	
Uarbry	3,170							11			11	11/10/-										11/10/-	
Ulan	2,790							12			12	10/10/-								18		10/10/-	
Ulladulla	13,690	632	231	155	234	52	31	55	36	10	101	85								3/10/-		103	At Pilot Station.
Ulmarra	27,810	1,478	333	102	169	145	64	175	72	16	263	180		110			52					347/10/-	Govt. building.
Ultimo	63,950	2,418	348	490	1,008	1,756	868	418	112	23	553	150	110				52				78	390	Rented.
Umaralla	3,070							27			27	10										10	
Unanderra	12,690	225						56	12		68	59/10/-										59/10/-	
Underbank	2,890							40			40	25/10/-										25/10/-	
Ungarie[50]	10,750	862	75	8	12	20	2	76	62	4	142	110								25/5/-		135/5/-	Free, by guarantors.
Upper Bankstown	2,300							9			9	16/10/-										16/10/-	
Upper Botobolar	570							10			10	10/10/-										10/10/-	
Upper Burragorang	3,690							27			27	10/10/-										10/10/-	
Upper Coldstream	1,590	65						17	3		20	26/10/-										26/10/-	
Upper Colo	1,340							3			3	15/10/-										15/10/-	
Upper Copmanhurst	9,710	574	188	43	40	67	18	151	88	8	247	160	10							3/10/-	28	201/10/-	Rented.
Upper Kangaroo River	1,170							26			26	11										11	
Upper Lansdown	990							10			10	10										10	
Upper Manilla	11,200	151						94	9		103	45/10/-										45/10/-	
Upper M'Donald	1,370							24			24	10/10/-										10/10/-	
Upper Orara	1,320							10			10	10/10/-										10/10/-	
Upper Pyramul	3,080	77	5	5				35		2	37	20										20	
Upper Rolland's Plains	990											10										10	
Upper Turon	1,550							26			26	11/10/-										11/10/-	
Uralgurra[51]	3,220							20			20	10										10	
Uralla	81,080	2,359	570	278	457	272	198	687	144	38	869	254		140	52		52			31		529	Govt. building.
Uralla Railway Stn																							At Railway Station.
Urana	34,320	3,226	775	131	166	130	75	595	211	35	841	254	65	78			39			91/12/6		527/12/6	Govt. building.
Urangeline	2,030							21			21	21										21	
Uranquinty	4,240	207						28	11		39	11										11	At Railway Station.
Urunga	1,930							16			16	12/10/-										12/10/-	
Vacy	8,830	185	110	29	22			58	10	4	72	49										49	

NOTE.—For references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Salaries.								Allowances.	Rent of Office.	Total.	
												Officers in Charge.	Assistants.	Operators.	Letter Carriers.	Mail Boys.	Messengers.	Line Repairers.	Other Employés.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Vale of Clwydd ...	6,090	.....	..	...	...	...	...	23	...	...	23	17	...	...	...	...	...	...	...	.....	.....	17	
Vere	1,370	.....	...	...	...	...	...	24	...	...	24	16	...	...	...	...	...	...	...	.....	.....	16	
Vermont Hill[7].....	690	.....	...	...	...	...	...	12	...	...	12	10	...	...	...	..	...	...	...	.....	.....	10	
Vittoria	1,320	.....	...	...	...	...	...	5	...	...	5	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Wagga Wagga.....	583,130	16,033	2,669	1,947	3,292	2,266	1,222	2,888	1,206	166	4,260	299	254 150 140 100	160 150 130 120 3 at 100	130 115 91	...	3 at 52 39	150	75 Battery man. 78 Switch attendant	231/10/-	.....	2,868/10/-	Govt. building.
Wagga Wagga Railway Station.[25]	.....	157	...	...	...	...	...	.....	9	...	9	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Wagra	5,970	124	...	...	...	...	...	23	7	...	30	25	...	...	...	...	...	...	...	.....	.....	25	
Wahroonga[47]	.....	169	...	...	...	...	...	.....	5	...	5	...	...	...	...	...	..	...	...	.....	.. ...	.....	At Railway Station.
Walbundrie.....	10,540	1,368	147	54	68	18	8	144	92	10	246.	110	...	...	...	...	...	...	...	1	12	123	Rented.
Walbundrie Reefs[45] ..	2,400	.....	...	...	...	...	...	23	...	...	23	10	...	...	...	...	...	...	...	... ..	.....	10	
Walcha.....	64,530	2,238	726	160	348	232	117	783	156	39	978	227	...	120	52	...	52	...	...	39/10/-	.....	490/10/-	Govt. building.
Walcha Road	12,350	331	190	27	28	75	30	71	19	7	97	40	...	...	...	...	...	...	...	.....	.....	40	At Railway Station.
Walgett	152,213	9,456	1,149	400	245	457	177	988	744	62	1,794	254	150 78	91	...	...	52	150	...	121/17/6	... ..	896/17/6	Govt. building.
Wallabadah.....	14,700	.....	317	40	48	...	...	120	...	11	131	45/10/-	...	...	...	...	...	...	...	... ..	.....	45/10/-	
Wallace	3,290	.....	...	...	...	...	...	22	...	...	22	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Wallangra	7,200	.. ...	...	...	...	...	...	101	...	...	101	21	...	...	...	...	...	...	...	. ....	.... .	21	
Wallarobba	3,990	.....	...	...	...	...	...	23	...	...	23	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Walla Walla	5,530	.....	...	...	...	...	...	66	...	...	66	50	...	...	...	...	...	...	...	.....	.....	50	At Railway Station.
Wallendbeen	23,180	644	199	96	120	25	29	214	37	12	263	39	...	...	...	...	...	...	...	2	.....	41	do.
Wallerawang	53,410	963	597	167	270	299	73	253	56	30	339	218	25	78	...	...	...	...	...	6	40	367	Rented.
Wallerawang Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Walli	2,600	.....	...	...	...	...	...	32	...	...	32	13/10/-	...	...	..	...	...	...	...	.....	.....	13/10/-	
Wallsend-Platts-burg.	217,530	3,149	1,070	971	999	1,033	667	712	148	64	924	280	26	130	135 110	...	52 26	...	...	73	.....	832	Govt. building.
Wamberal	2,750	.. ...	...	...	...	...	...	27	...	...	27	13	...	...	...	...	...	...	...	.....	.....	13	
Wanaaring	24,190	2,266	496	43	28	173	31	400	161	24	585	236	100	...	...	...	...	...	...	20	52	408	Rented.
Wandandian	2,540	... ..	...	...	...	...	...	14	...	...	14	14/10/-	...	...	...	...	...	...	...	.....	.....	14/10/-	
Wandella	1,180	.....	...	...	...	...	...	9	...	...	9	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Wandsworth	8,920	.....	174	6	12	...	...	73	...	8	81	27	...	...	...	...	...	...	...	.....	.....	27	
Wanganella.....	25,250	.....	...	...	...	...	...	36	...	...	36	36	...	...	...	...	...	...	...	.....	.....	36	
Wangat	1,700	.....	...	...	...	...	...	19	...	...	19	11	...	...	...	...	...	...	...	.....	.....	11	
Waratah	58,620	1,084	229	284	518	262	167	445	51	16	512	160	...	91	150 78	...	...	...	...	73	.....	552	Govt. building.
Waratah Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Wardell	13,890	1,003	342	75	86	112	46	162	54	15	231	110	...	78	...	...	...	...	...	3/10/-	19/10/-	211	Rented.
Warden's Head Lighthouse.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.. ...	.....	At Lighthouse.
Warge Rock	1,900	.....	...	...	...	...	...	12	...	...	12	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Warialda	71,020	3,376	499	165	306	203	53	590	243	27	860	236	26	100	...	...	26	150	...	42/10/-	.....	580/10/-	Govt. building.
Warkton	2,400	.....	...	...	...	...	...	14	...	...	14	12/10/-	...	...	...	...	...	...	...	.....	.....	12/10/-	
Warkworth.....	6,450	146	...	...	...	...	...	72	8	...	80	30	...	26	...	...	...	...	...	.....	15/12/-	71/12/-	Rented.
Warmatta	1,770	.....	...	...	...	...	...	13	...	...	13	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Warne	10,690	242	222	80	60	16	20	134	13	14	161	39	...	...	...	...	...	...	...	.....	.....	39	At Railway Station.
Warneton	1,310	.....	...	...	...	...	...	.....	...	...	.....	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Waroo[52]	5,030	598	...	...	...	...	...	29	39	...	68	100	...	...	...	...	...	...	...	21	.....	121	Free, by Guarantors.

Warrah Ridge	730	..	...	..	..	.	.	10	.		10	10/10/-		..	..	..	.	..	.	...	.. ...	10/10/-	
Warren	111,590	6,432	1,890	291	361	492	208	1,206	417	75	1,698	254	91	140	65	.	39	.	.	20	...	609	Govt. building.
Waterfall	390	44			..			10	2	.	12	10			..	..	.	.	..		.	10	At Railway Station.
Waterloo	63,640	1,383	220	570	412	623	381	324	61	16	401	130		120		.	2 at 52			19/10/-	52	425/10/-	Rented.
Watson's Bay	17,520	1,286	144	37	94	175	99	104	46	7	137	130			110		52			48	36/8/	376/8/-	do
Wattamolla	1,520							14			14	10/10/	.						..		.	10/10/-	
Wattle Flat	16,410	586	328	222	135	61	85	155	31	15	201	130	.	..		..	26		...	2	20	178	Rented.
Wauchope	17,470	1,252	513	110	69	123	34	191	75	20	286	140	.	.		.	52	.	78 Switchboard Attendants	1	36	229	do
Waverley	335,740	6,657	929	1,325	1,890	2,547	1,339	1,606	276	51	1,933	218	91	130	135	78	3 at 52	..		197/10/-	..	1,714/10/-	Govt. building.
													52	110	130	..	39	...	52				
														65	105								
															78								
Weddin	2,040	.	...	.	...	..	.	62	.	.	62	11/10/-	..	..		.		.	..	.	.. ..	11/10/-	
Wee Jasper[53]	320	.	..		.	.	..	7	.	..	7	10	.					...		. ..		10	
Wee Waa	37,700	3,121	454	84	75	166	43	440	213	24	677	180	..	100	..	.	.	..	...	5	..	285	Govt. building.
Weismantel's	3,800		.		.	..	.	64	.	..	64	21		.	..	.	..	.	...	. . .	. . .	21	
Welcome Reefs	2,050	..	.		.	..	..	18		.	18	10/10/-	..	...	..	..		..	..	.. .	. .	10/10/-	
Wellingrove	2,940	..	.		.	..	.	21		.	21	21/10/-		.	.	..	..	..	..	...	.	21/10/-	
Wellington	175,990	4,680	2,131	845	1,151	856	427	1,391	362	112	1,865	299	78	200	78	..	52	..	...	78	... .	785	Govt. building.
Wellington Railway Station.	.	262	...		..	..	..	.. .	14	...	14	..	..	...	..	.	.	...	...	... ..	... ..	.. .	At Railway Station.
Wentworth	99,370	5,239	569	254	268	250	118	759	360	37	1,156	362	160	170	...	....	52	150	...	78/17/6	.. .	1,157/17/6	Govt. building.
													65	120									
Wentworth Falls	49,370	794	191	69	122	45	27	185	45	13	243	19	78	...	...	..	..	...	...	31/4/-	.. ..	133/4/-	At Railway Station.
													5										
Wentworthville	5,640	78	..		...	..	..	26	4	..	30	10	..	.	..	..	...	...	...	. ..	.. .	10	do
Werombi	2,340	. . .	.	..		.	..	43	.	..	43	13	..	..	..	.	..	..	...	.	.... .	13	
Werrington	950	..	...	.		..	..	10	.	.	10	10/10/-		..	..	...	..	..	..	..	.	10/10/	
Werris Creek	20,830	2,211	564	59	122	206	80	197	157	27	381	100		.	...	.	52		...	1		153	
Werris Creek Railway Station.	. . .	..		..	..	.	...	.. . .	..	..	... .	.	.	.	..		...	.	..	.... .	..		At Railway Station.
Westbrook	1,810	. . .	..	...	...	..	...	13	..	.	13	13/10/-	..	..	..	.		..	..	. .	.....	13/10/	
West Cambewarra	700		.	.	..	..	.	6		...	6	10/10/-	...	..	..	.	..	.	...	. ..	.. ..	10/10/-	
West Kempsey	34,220	2,388	457	134	170	145	66	54	194	20	268	254		120	.	..		.	.	4	.. .	378	Govt. building.
West Maitland	877.540	15,527	2,678	3,699	7,373	2,154	1,170	4,243	1,196	150	5,589	380	190	2 at 180	160	..	2 at 52	150	100	297		3,874	do
												335	140	170	140	.	39		Battery man				
				.									110	160	3 at 78	.			26				
													91	140	52				Switch board attendant	.			
													78	130									
														110									
														100									
														78									
West Maitland Railway Stn.	.. .	..	...	...	..	...	...	....		...	.. . .	...	.	..	...	...	..	...	..	. . .	..	..	At Railway Station.
West Maitland, High street Railway Stn.	.....	. .	..	..	.	..	..	. . ..	..	...	. . .		..	..	...	..	..	.	.	. .. .	.. ...		do
West Mitchell	2,790	.	..	..	.	..	.	44	..	.	44	19	.	.	...	..	..		...	...	. ....	19	
West Tamworth	5,600	350	112	48	46	19	8	4	19	3	26	26		.	.		..		..	.	. . ..	26	At Railway Station.
West Wallsend	22,110	621	313	198	131	177	137	141	39	15	195	100		.	26	...		..	.	.	. .	126	
West Wyalong	115,770	10,030	2,181	787	974	408	356	925	577	98	1,600	150	110	.	.	.	39	.	..	160/10/-	..	624/10/-	Govt. building.
													100										
													65										
Wetherill Park	2,970			.	.		..	44		.	44	10/10/-	..	..	.	.		..	..	15	.	25/10/-	
Whealbah	1,740			..		..	..	33	..	.	33	14		.	..	.		.			.	14	
Wheeo	3,300	.		..	.		..	39	.	..	39	30/10/-			..			.			. . .	30/10/-	
Wherrol Flat	1,200		..	..	.	.	..	21	.	.	21	11					.			.	...	11	
Whinstone Valley	1,740	.			.	..	.	13			13	13/10/-	.	..	.	.			.	.	... ..	13/10/-	
White Cliffs[54]	17,580	.	284	18	25	..	.	245	..	16	261	75	.		..			.	.	.	26	101	Rented.
Whiteman Creek	1,140		..	.		..	.	.				13	.			.		..	..		.. .	13	
White Rock	810	.		.		.	.	26		.	26	15	.				.	.			.	15	
Whittingham	11,300						..	77		.	77	35/10/-	.		..			.			.	35/10/-	
Whitton	73,480	2,171	487	164	187	158	83	638	128	26	792	140	...	100	..			..	..	32/10/-		272/10/-	At Railway Station.

Note—For references see page 57.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.
												Salaries.								Allowances.	Rent of Office.	Total.	
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic	Money Order and Postal Note.	Total.	Officers in Charge.	Assistants.	Operators.	Letter-carriers.	Mail-boys.	Messengers.	Line Repairers.	Other Employees.				
								£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Wickham	111,710	971	485	504	702	934	518	419	46	29	494	190	...	110	135 105	...	52	...	...	81	.....	673	Govt. building.
Wilberforce	12,020	254	114	59	75	...	...	58	14	5	77	53	...	...	...	...	...	...	...	.....	.....	53	
Wilcannia ..	134,230	10,324	1,229	417	376	521	204	1,730	848	66	2,644	299	140	130 2 at 100	78 ...	...	52 39	150	...	190/17/6	.....	1,278/17/6	Govt. building.
William-street ...	152,440	15,447	2,373	1,340	3,006	3,816	2,093	2,269	776	130	3,175	344	140 91 52	170 150	... ...	... ...	4 at 52 2 at 39	...	...	5	.....	1,238	Govt. building.
William Town ...	1,400	.....	...	...	...	...	...	33	...	...	33	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Willoughby	60,279	811	148	132	222	354	135	142	41	9	192	99/10/-	13	...	125 110 91	65	26	...	...	184/10/-	65	779	Rented.
Willow-tree	26,230	493	342	21	37	...	...	186	24	15	225	50	...	...	...	...	...	...	...	.....	.....	50	At Railway Station.
Willson's Downfall	12,140	.....	337	23	18	...	...	10	...	10	20	28	...	...	...	...	...	...	...	.....	.....	28	
Wilson	1,310	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Wilton	4,010	.....	182	29	30	...	...	50	...	5	55	26	...	...	...	...	...	...	...	... ..	.....	26	
Wimbledon	4,360	112	...	...	...	...	...	.....	8	...	8	11	...	...	...	...	...	...	...	.....	.....	11	At Railway Station.
Windellama	5,940	.....	60	27	11	...	...	53	...	4	57	23/10/-	...	...	...	...	...	...	...	.....	.....	23/10/-	
Windeyer	7,240	.....	120	22	69	...	...	19	...	5	24	36/10/-	...	...	...	...	...	...	...	.....	.....	36/10/-	
Windsor	159,620	3,076	934	804	1,324	392	187	819	164	51	1,034	326	52	160 100	130 70	...	52	...	...	72/10/-	.....	962/10/-	Govt. building.
Windsor Railway Stn.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Wingello	8,970	271	...	...	...	...	...	48	14	4	66	18	...	...	...	...	...	...	...	.....	.....	18	do
Wingen	8,040	288	213	10	21	...	...	107	16	7	130	25	...	...	...	...	...	...	...	.....	.....	25	do
Wingham	35,260	1,537	466	121	206	113	56	327	90	22	439	200	...	78	52	...	...	...	Cadet nil.	4	.....	334	Govt. building.
Winton	1,380	.....	...	...	...	...	...	46	...	...	46	11	...	...	...	...	...	...	...	.....	.....	11	
Wiseman's Creek	2,180	.....	...	...	...	...	...	29	...	...	29	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Wiseman's Ferry	11,370	714	471	92	87	75	23	88	40	21	149	227	39	..	...	...	...	...	...	48/10/-	55	369/10/-	Rented.
Wollar	11,570	.....	197	20	22	...	..	63	...	7	70	30	...	...	...	...	...	...	...	.....	.....	30	
Wollombi	13,600	757	345	140	63	69	29	123	48	19	190	236	...	78	...	...	...	...	...	39/10/-	.....	353/10/-	Govt. building.
Wollomombi	15,090	261	105	13	19	...	...	71	15	4	90	32	...	...	...	...	...	...	...	.....	.....	32	
Wollongbar	2,770	.....	...	...	...	...	...	18	...	...	18	16/10/-	...	...	...	...	...	...	...	.....	.....	16/10/-	
Wollongong	174,020	7,608	1,939	1,459	2,197	1,321	635	1,421	425	111	1,957	254	...	150 110	105 2 at 78	...	52	...	...	114/10/-	.....	941/10/-	Govt. building.
Wolumla	24,390	569	263	80	106	54	17	108	32	10	150	100	...	...	...	...	13	...	...	2/10/-	35	150/10/-	Rented.
Wombat ...	5,600	.....	...	...	...	...	...	21	...	...	21	20	...	...	...	...	...	...	...	.....	.....	20	
Woodburn	12,960	576	380	55	15	40	28	83	33	15	131	180	91	...	...	...	...	...	...	69/10/-	30	370/10/-	Rented.
Woodfordleigh ...	4,760	.....	...	...	...	...	...	18	...	...	18	22/10/-	...	...	...	...	..	...	...	4	.....	26/10/-	
Woodhill	820	.....	...	...	...	...	...	3	...	...	3	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Woodhouselee	5,490	.....	...	...	...	...	...	38	...	...	38	24/10/-	...	...	...	...	...	...	...	.. ...	.....	24/10/-	
Woodlands	1,890	.....	...	...	...	...	...	19	...	...	19	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Woodside	2,690	178	...	...	...	...	...	54	10	...	64	40/10/-	...	...	...	...	...	...	...	.....	.....	40/10/-	
Wood's Reef[55]	.....	.....	...	...	...	...	...	.....	...	...	.....	10	...	...	...	...	...	...	...	.....	.....	10	
Woodstock	14,830	351	282	65	68	...	...	185	20	14	219	56	26	...	...	...	...	...	...	.....	.....	82	At Railway Station.
Woodville	6,000	154	...	...	...	...	...	36	8	...	44	30	...	...	...	...	...	...	...	.....	... ..	30	
Woolbrook	5,810	48	96	16	22	...	...	65	3	6	74	17	...	...	...	...	...	...	...	.....	.....	17	At Railway Station.
Woolgoolga	7,490	830	165	45	26	9	9	41	50	7	98	100	...	...	...	...	...	...	...	2	30	132	Rented.
Woollahra	152,210	5,388	809	1,409	4,205	1,802	1,096	818	216	42	1,076	190	...	140 100	170 145 125 91 78	...	3 at 52 39	...	...	42/10/-	176	1,452/10/-	do

Woolomin	2,180	.....	...	...	...	...	...	56	...	...	56	18	...	...	..	...	...	...	..	.. ...	.. ...	18	
Woolwich	15,220	505	41	27	50	23	4	83	17	3	103	42	...	...	78	...	...	...	...	10	.....	130	
Woomargama	10,530	.....	...	...	...	...	...	48	...	...	48	33/10/-	...	...	..	..	. .	...	..	.....	.. ...	33/10/-	
Woonona	23,430	476	592	240	385	500	174	194	27	31	252	100	...	...	...	..	13	...	...	2	48	163	Rented.
Woore	1,550	... ..	...	...	. .	...	...	.....	...	...	.....	14/10/-	...	...	..	..	...	...	...	.....	.....	14/10/-	
Woy Woy[45]	2,570	455	...	...	...	...	...	10	24	...	34	10	...	10	...	..	...	...	...	.....	.. ..	20	At Railway Station.
Wyalong	51,930	4,766	775	556	584	232	230	337	312	41	690	100	78 39	..	...	...	39	..	...	104	19/10/-	379/10/-	Rented.
Wybong	1,310	.....	...	...	...	...	...	15	...	...	15	14/10/-	...	...	...	..	...	...	...	.....	.....	14/10/-	
Wyee	5,660	108	...	...	...	...	...	89	6	...	95	10	...	...	...	...	...	...	...	.....	.....	10	At Railway Station.
Wyndham	13,490	840	304	48	121	64	17	118	47	10	175	140	10	...	...	...	...	...	...	28/10/-	.....	178/10/-	Provided by Postmaster.
Wyong	27,860	875	408	827	776	69	31	209	48	20	277	130	...	...	...	..	52	...	...	1/10/-	.. ...	183/10/-	Govt. building.
Wyong Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	..	...	...	...	.....	.....	.....	At Railway Station.
Wyong Creek	6,130	.....	...	...	...	...	...	12	...	...	12	15/10/-	...	...	...	...	...	...	...	24	.....	39/10/-	
Wyrallah[15]	7,340	557	167	34	15	21	12	68	31	19	118	140	...	...	...	...	...	...	...	2	25	167	Rented.
Yalgogrin North	3,370	.. ...	...	...	...	...	...	6	...	...	6	10	...	...	...	...	...	...	...	.....	.....	10	
Yalpunga	1,800	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Yalwal	6,070	492	86	45	92	...	...	56	28	6	90	47/10/-	...	...	...	...	...	...	...	.....	.....	47/10/-	
Yamba	15,130	2,539	639	287	36	213	43	107	136	28	271	120	...	...	...	...	26	...	...	3/10/-	26	175/10/-	Rented.
Yandarlo	7,570	.....	...	...	..	..	...	.....	...	...	.....	26	...	...	...	...	...	...	...	.....	.. ...	26	
Yanko	2,390	210	..	...	...	...	...	.....	12	...	12	12	...	...	...	...	...	...	...	.....	.. ...	12	At Railway Station.
Yarra	10,810	.....	...	...	...	...	...	32	...	...	32	22	...	...	..	...	...	...	...	.....	.....	22	
Yarramalong	2,320	.....	...	...	...	...	...	11	...	...	11	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Yarraman	3,140	842	...	...	...	...	...	121	49	...	170	14/10/-	...	26	...	...	...	...	...	.....	.....	40/10/-	
Yarrangobilly Caves	.....	68	...	...	...	...	...	.. ...	4	...	4	...	...	...	...	...	...	...	...	.....	.....	.....	
Yarrara[4]	1,830	.....	...	...	...	...	...	38	...	1	39	10	...	...	...	...	...	...	...	.....	.....	10	
Yarras	2,650	.....	...	...	...	...	...	27	...	...	27	15/10/-	...	...	...	...	...	...	...	.....	.....	15/10/-	
Yarrowyck	1,370	.....	...	...	...	...	...	23	...	...	23	10/10/-	...	...	...	...	...	...	...	.....	.....	10/10/-	
Yass	127,130	4,098	1,343	776	1,441	494	276	1,363	257	68	1,688	299	65	160 140	135	...	26	150	...	114	.....	1,089	Govt. building.
Yass Junction	7,960	137	...	...	...	...	...	.....	7	...	7	19	...	...	...	...	...	...	...	.....	.....	19	At Railway Station.
Yatteyatah	7,640	.....	...	...	...	...	...	30	...	...	30	30	...	...	...	...	...	...	...	.....	.....	30	
Yellow Rock	1,920	.....	...	...	...	...	...	21	...	...	21	11	...	...	...	...	...	...	...	.....	.....	11	
Yeoval	3,830	.....	...	...	...	...	...	69	...	...	69	19	...	...	...	...	...	...	...	.....	.....	19	
Yerong Creek	33,010	748	247	29	75	38	22	306	42	15	363	110	...	...	...	...	...	...	...	19	.....	129	Govt. building.
Yetholme	1,200	.....	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	.....	.....	20/10/-	
Yetman	12,340	778	114	5	12	...	...	65	53	6	124	160	20	...	...	...	52	...	...	38/10/-	50	320/10/-	Rented.
Young	240,220	7,829	2,218	1,131	1,641	1,058	661	2,183	547	110	2,840	308	160 91	160 140	155	...	2 at 52	150	...	51/10/-	.....	1,319/10/-	Govt. building.
Young Railway Station.	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.
Young Wallsend	1,200	.. ...	...	...	...	...	...	29	...	...	29	11	...	...	...	...	...	...	...	.....	.....	11	
Yurrunga	2,140	.....	...	...	...	...	...	26	...	...	26	21	...	...	...	...	...	...	...	.....	.....	21	
Zig Zag	.....	10	...	...	...	...	...	.....	1	...	1	...	...	...	...	...	...	...	...	.....	.....	.....	At Railway Station.

EXPLANATORY NOTES TO APPENDIX A.

[1] Money Order Office established, 1st January. [2] Post Office established, 1st January. [3] Post Office established, 21st August. [4] Post Office established, 1st February. [5] Post Office established, 1st June. [6] Telephone Office opened, 20th May. [7] Post Office established, 16th August. [8] Government Savings Bank established, 1st April. [9] Post Office established, 1st May. [10] Post Office established, 1st April. [11] Post and Telegraph Office established, 20th August. [12] Telephone Office opened, 30th August. [13] Telephone (in lieu of Telegraph) Office opened, 14th November. [14] Post Office established, 1st October. [15] Government Savings Bank established, 15th July. [16] Post Office established, 16th January. [17] Post Office established, 16th April. [18] Post Office established, 1st August. [19] Telephone Office opened, 18th January. [20] Post Office established, 1st December. [21] Government Savings Bank established, 1st January. [22] Telephone (in lieu of Telegraph) Office opened, 8th January. [23] Money Order Office and Government Savings Bank established, 21st May. [24] Telephone (in lieu of Telegraph) Office opened, 1st June. [25] Telegraph Office opened, 14th May. [26] Government Savings Bank established, 1st October. [27] Post Office established, 20th November. [28] Post Office established, 1st November. [29] Telegraph (in lieu of Telephone) Office opened, 21st June. [30] Government Savings Bank established, 21st May. [31] Government Savings Bank established, 2nd December. [32] Post Office established, 16th September. [33] Telephone Office opened, 8th April. [34] Post Office established, 5th January; Telephone Office opened, 27th May. [35] Post Office established, 16th October. [36] Telephone Office opened, 16th January. [37] Money Order Office established, 18th November. [38] Money Order Office and Government Savings Bank established, 1st July. [39] Post Office (in lieu of Receiving Office, Meranburn Railway Platform) established, 1st October. [40] Post Office established, 1st January; Money Order Office established, 1st February; Government Savings Bank established, 21st May. [41] Telephone Office opened, 18th February. [42] Money Order Office established, 9th December. [43] Money Order Office established, 21st May. [44] Telephone Office opened, 21st October. [45] Post Office established, 1st July. [46] Post Office established, 21st October. [47] Telegraph (in lieu of Telephone) Office opened, 12th December. [48] Government Savings Bank established, 1st August; Telegraph (in lieu of Telephone) Office opened, 23rd August. [49] Telephone Office opened, 27th May. [50] Money Order Office and Government Savings Bank established, 21st May; Telegraph Office opened, 8th April. [51] Post Office established, 15th January. [52] Telegraph Office opened, 8th July. [53] Post Office re-established, 15th June. [54] Money Order Office established, 1st February. [55] Post Office established, 16th December.

APPENDIX B.

List of Receiving Offices on 31st December, 1895.

Aberglasslyn
Agnes Banks
Alfred Town
Altcar
Amaroo
Angledale
Annangrove
Apple Tree Flat
Arcadia
Argalong
Armatree
Armidale Gully
Ashley
Avenel
Backwater
Badgery's Creek
Ballimore
Bawden Bridge
Beggan Beggan
Belgrave
Bellawongarah
Belle Vue
Beloeth
Bena
Benandarah
Bendick Murrell
Beni Creek
Ben Lomond
Bereen
Bermagui South
Bilambil
Billy's Look Out
Bindogandra
Bingleburra
Binnie Creek
Birriwa
Binneguy
Black Swamp
Blanket Flat
Bobeyan
Bo Bo
Bobin
Bob's Range
Bocoble
Boconnoc
Bogan Gate
Bolaro
Bolton Vale
Bongongo
Boona Tank
Boonoo Boonoo
Boorooolong
Boorooma
Boppy Mountain
Borambil
Boree Creek
Bossley Park
Bournewood
Bow
Braemar
Breelong
Brenda
Brierfield
Brimbramalla
Brockley
Broken Dam
Bronti
Brook's Creek
Brookvale
Brucedale
Brunkerville
Bucca Bucca
Buckenbour Creek
Budgong
Bugaldi
Bungarby
Bungulla
Burnt Yards
Burra
Burragate
Burrapine
Byangum
Camboon
Cangai
Canimbla
Carabost
Carba
Carrabolla
Carrawobity
Castle Doyle
Cattia Creek
Cave Creek
Cawdor
Central Raleigh
Central Tilba
Central Wattagan
Chanticleer
Cheetam's Flats
Cherry-tree Hill
Chinderah
Clare
Clareval
Cloverley
Cobark
Cochran Creek
Cocomingla
Colinroobie
Collerina
Collingullie
Comarah
Comborah
Cooba
Cookamidgera
Coolalie
Coolamon Plains
Cooradigbee
Coramba Battery
Corndale
Corona
Countegany
Cowan's
Cowper
Crabbe's Creek
Craig Lea
Cranebrook
Cronulla Beach
Crow Mountain
Cugong
Cullerin
Cullubumbung
Culparlin
Cumbalum
Cundle Flat
Cundumbul
Curban
Curracabark
Curra Creek
Currowan
Dapper
Diemunga
Dignam's Creek
Dilga
Dingo Creek
Dorrigo
Dorroughby Grass
Double Peak
Doyle's Creek
Duck Flat
Durren Durren
East Hills
East Seaham
Edith
Eganton
Elcombe
Eltham
Enwylong
Eulomogo
Eurimbla
Everett
Farringdon
Federal
Fladbury
Flyer's Creek
Forest Vale
Forrester
French Park
Galore Park
Garland
Genanagie
Giant's Creek
Gidginbung
Gil Gil
Gillenbine
Girvan
Glendhu
Glenfield
Glengarry
Gleniffer
Good Hope
Goonellabah
Gorton's Yard
Gowrie
Grass Hut
Grattai
Great Southern Colliery
Greenwich Park
Greenwood
Greghamstown
Gregra
Greig's Flat
Gulf Creek
Gullen Flat
Gumble
Gurrundah
Hadley
Half-way Creek
Halton
Hannah Bay
Harold's Cross
Hawke's Nest
Hazelbrook
Hillas Creek
Hillerman's
Hopefield
Hughstonia
Huon
Ingebyra
Ingledow
Inglewood
Inveralochy
Ironbong
Jackson's Water Holes
Jaunter
Jilliby
Jinden
John's River
Junction Point
Kamandra
Kangaroo Camp
Karangi
Kareela
Katoomba South
Kelly's Creek
Killabakh Creek
Kilrush
King's Plains
Kingsvale
Kinross
Kundibakh
Lakesland
Lallarook
Lamb's Creek
Langwell
Lankey's Creek
Larbert
Laurel Hill
Leconfield
Ledgerton
Leura
Limestone Creek
Linden
Linton
Little Bombay
Lochiel
Long Swamp
Looby's
Lorne
Lower Belford
Lower Botobolar
Lower Corowa
Lower Forest
Lower Hickey's
Lower Mookerawa
Lower Taylor's Arm
Maclaurin
Mahratta Station
Mallan
Mandemar
Mangargool
Maracket
Markdale
Markwell
Marrana Creek
Marrar
Maybole
Medowie
Meermaul
Meragle
Meringlo
Merool Creek
Meryla
Mewburn
Middle Adelong
Mila
Milburn Creek
Mimosa
Minore
Miranda
Missabotti
Moonan Flat
Moona Plains
Moonbi
Moorebank
Moparrabah
Morago
Morisset
Mororo
Morton
Mosquito Island
Mountain Home
Mount Allen
Mount Aubrey
Mount Billagoe
Mount Kenwary
Mount Pleasant
Mount View
Mount Wayo
Mount Werong
Mount Wilson
Mulbring
Mullenderree
Mundarlo
Mundawaddera
Munmurra
Munyabla
Murragang
Murrah
Murrayville
Muskgrove
Myalla
Myall Creek
Myall Plains
Nana Creek
Nanama
Nanangroe
Nangus
Narrabeen
Nemingha
New Cryan
Newlands
New Mollyan
New Park
Nicholson's
Noorong
Noraville
North Bourke
Norton
Norway
Numulgi
Oakey Creek
Obley Vale
Ollera
Ournie
Owen's Gap
Page's Creek
Parkesbourne
Payne's Crossing
Peacock Creek
Peakview
Pera Bore
Pheasant Ground
Pine Mount
Pine Vale
Piney Range
Pipe Clay Creek
Platina
Pleasant Valley
Porter's Retreat
Port Hacking
Possum Power
Pretty Gully
Pretty Pine
Puddledock
Pudman Creek
Quinburra
Reddacliff's
Reedy Creek
Rhine Falls
Rhyola
Rivertree
Rockton
Rockvale
Rosebrook
Rosemount
Rossi
Rossmore
Round Swamp

List of Receiving Offices on 31st December, 1895—*continued.*

St. George's Basin
Salisbury
Sally's Flat
Sandon
Sassafras
Sawyer's Gully
Seelands
Shannon Vale
Shark Creek
Somersby
South Clifton
South Gundurimba
South Mount Hope
South Rivertree
Spring Creek
Spring Dale
Spring Ridge
Spring Vale
Stanmore Railway Station
Stanwell Park
Steve King's Plain
Store Creek
Stott's Creek
Summervale
Suntop
Sweetbriar
Tallagandra
Tallawudjah
Tallewang
Talmalmo
Taloumbi
Taradale
Tarrabandra
Tathra Road
Telegherry
Tenterden
Teridgerie
Terra Bella
Teven Creek
Thalaba
The Esk
The Fens
The Risk
The Tamarinds
The Vineyard
The Weir
Thornford
Thornton
Thyra
Tia
Tinda Tank
Tingiringi
Tomakin
Tomanbil
Tomboy
Tomki School
Tomooroma
Tooraweenah
Towac
Triangle Flat
Trickett
Tubbamurra
Tubbul
Tullamore
Turee Creek
Turill
Turrawan
Twelve Mile
Unkya Creek
Upper Chichester
Upper Dungowan
Upper Gilmore
Upper Horton
Upper Lostock
Upper Meroo
Upper Myall
Upper North Creek
Upper Quinburra
Upper Shark Creek
Upper Tooloom
Verona
Wagonga
Wagragobilly
Wahroonga
Wallan Billan
Wallandool
Wallon
Walmer
Wamboyne
Wanstead
Wantiool
Wapengo
Ward's River
Wargeila
Warner's Bay
Warrell Creek
Wattamadara
Waugoola
Webb's Creek
West Temora
Whipstick
White Swamp
Widden
Wilga Vale
Williams' Crossing
Williamsdale
Willow Forest
Willy Wally
Winduella
Wollun
Wombeyan Caves
Womboo (Rogers')
Womboota (Edwards')
Woodford
Woodhall
Woodlawn
Wood's Reef
Woolla Woolla
Wright's
Wuuluman
Wyan
Wyndella
Yagobie
Yalbraith
Yallaroi
Yantabulla
Yaouk
Yarralumla
Yarrangobilly
Yarrangobilly Caves
Yarrowitch
Yathella
Yeo Yeo
Yowaka
Yowrie

APPENDIX C.

ARTICLES OF AGREEMENT made and entered into this 22nd day of January, in the year of our Lord, 1896 between the Honorable Joseph Cook, Postmaster General for the Colony of New South Wales (hereinafter called the Postmaster General, in which expression his successors in office, the Postmaster General for the time being, are respectively intended to be included) on behalf of the Government of New South Wales, and not so as to incur or come under any personal liability in respect to these presents, of the first part, and James Huddart, of the City of London, in England, shipowner (hereinafter called contractor, which expression shall be deemed to include the heirs, executors, administrators, and permitted assigns of the said James Huddart, when the context so requires or admits) of the other part, witnesseth that for and in consideration of the covenants and agreements hereinafter contained on the part of the Postmaster General, the contractor for himself, his heirs, executors, and administrators, doth covenant and agree with and to the Postmaster General and his successors in manner and form and to the effect following, that is to say—

1. To maintain monthly steam ship service.

1. That he, the contractor, will provide, establish, and during the period of three years, calculated as and from the 25th day of May, 1896, maintain, continue, and carry on, in the manner hereinafter set forth, a regular steamship service between the City of Sydney, in the Colony of New South Wales, and the City of Vancouver, in the province of British Columbia, calling at Honolulu in the Sandwich Islands, and at the outer wharf in the City of Victoria, in the said province, on both outward and homeward voyages from Sydney to Vancouver, and from Vancouver to Sydney, and such service shall, as far as practicable, make connection at Sydney with all local lines of steamships running between Sydney and other ports in Australia and New Zealand.

2. Steamships to be provided.

2. The two steamships "Miowera" and "Warrimoo" shall be regularly and continuously employed in the said service, each of which steamship is hereby warranted to be in length not less than 340 feet, in breadth not less than 42 feet, and in depth not less than 25 feet 2 inches, of a gross tonnage not less than 3,300 tons, and capable of an average speed of not less than 15½ knots per hour. Each of the said steamships is further warranted to have the most approved triple expansion machinery, refrigerators for the ship's use, duplicate electric light engines, special ventilation for tropical voyages, ample saloon and cabin accommodation for at least 130 passengers, and to be provided with every comfort and convenience that is to be found in the best Atlantic liners of its size. Each of the said steamships is further warranted to be of the highest class at Lloyds, and to have a present London Board of Trade Certificate, and each of the said steamships shall, during the continuance of this contract, be at all times tight, sound, staunch, and strong, and well and sufficiently manned, victualled, and equipped, and in every respect seaworthy, and shall further at all times during the continuance of this contract retain the qualifications and class which it is hereinbefore warranted to possess.

3. Duration of voyage.

3. The round trip for each of the said steamships shall begin and end at Sydney aforesaid, and the first voyage in performance of this contract shall commence and be made from Sydney aforesaid on the 25th day of May now next. The period of each voyage from Sydney to Vancouver and from Vancouver to Sydney shall not exceed twenty-one days (calculated as to the voyage from Sydney to Vancouver from the date of leaving the port of Sydney aforesaid up to the time of the acceptance of a pilot at British Columbia, and as to the voyage from Vancouver to Sydney from the date of the discharge of the pilot at British Columbia to the date of the arrival at the port of Sydney) including one day's detention at Honolulu on each voyage, both outward and homeward; but it is expressly agreed and understood that in the event of the said steamers calling at Brisbane or Fiji, as hereinafter provided for, a further period of thirty-six hours is to be allowed for the time spent in calling at each port on both inward and outward voyages. The said service shall be monthly, and the said steamers shall leave the said ports of Sydney and Vancouver on the days and at the times to be from time to time appointed for that purpose by the Postmaster General after consultation with the Canadian Postmaster, alternately arriving at Vancouver and at Sydney at intervals of not more than one month after the date of the arrival of the steamship leaving Sydney on the 25th day of May next, as hereinbefore provided, at Vancouver on its said first voyage in the performance of this contract. Each voyage shall be deemed to commence so soon after the completion of the embarkation of the mails intended to be thereby conveyed as, having regard to practical considerations, the anchor of such vessel can be weighed, or the vessel can be loosed from its moorings, and each such voyage shall be deemed to be completed when the vessel has arrived and been anchored or moored at some position in the port of destination from which the mails can be conveniently disembarked,

disembarked, and the times of the commencement and completion of every voyage shall be ascertained and recorded by officers of the Postmaster-General, in pursuance of arrangements to be from time to time made by him for such purpose, and the decision of the Postmaster-General as to all questions relating to any such times or periods shall be final and conclusive.

4. Not to call at United States.

4. The said steamships shall not during the continuance of this contract call at any port in the United States of America.

5. Carriage of freight and passengers.

5. The said steamships shall each, according to its capacity, carry both outward and homeward all the freights and passengers which may be reasonably offered and obtained, and at tariff rates, both as to passengers and freights, which shall be approved by the Governor of New South Wales, with the advice of the Executive Council of the said Colony, and after consultation with and approval of the Canadian Executive body.

6. Preference to New South Wales.

6. No discrimination shall be made as regards tariff rates for either freights or passengers in any manner, directly or indirectly, against any New South Wales port, or against the New South Wales Government Railways, or against any New South Wales merchant or shipper; but New South Wales merchants or shippers shall at all times have preference for the carriage of their goods over other merchants and shippers, as far as regards the Australian connection. But in the event of a subsidy from Queensland or other colony being received, space shall be provided *pro rata* to the respective subsidies.

7. Carriage of mails.

7. During the continuance of this contract the said steamships shall, at the cost and the expense of the said contractor, receive and carry on each and every voyage all such mails as shall or may be tendered for conveyance to the said steamships, or to the masters or any officers on board of the same at the port of Sydney aforesaid, by or on behalf or under the direction of the Postmaster-General for the time being, his officers, agents, or servants, and shall deliver such mails at their proper ports of destination, upon the sailing route of the said steamships, as herein indicated; and, in order to the due and proper performance of this covenant, the said steamships shall each be provided with sufficient and convenient accommodation and protection for all such mails, to the satisfaction of the Postmaster-General for the time being; and the said contractor shall further take all reasonable and necessary precautions for the protection of such mails while upon the said steamships from loss, damage, or injury in any way, and he and they shall be responsible for any loss or damage thereto caused by negligence or want of proper care or accommodation on the part of the said contractor or his or their agents or servants, or on the part of the officers or employees or crew on board the said steamships; and in this connection it is specially covenanted and agreed by the contractor that this contract shall be subject to the steamships to be employed in carrying the mails thereunder not having on board in the pay of the contractor any coloured labour.

8. Accommodation on board.

8. The contractor shall provide, to the satisfaction of the Postmaster-General, all necessary and suitable accommodation, including lights, for the purpose of sorting and making up the mails on board the several vessels employed under this contract, and on being required to do so by the Postmaster-General shall at his or their own cost erect or set apart in each of the said vessels on the spar deck, a separate and convenient room for such purposes, and all the furniture, lamps, fittings, and other conveniences in and about such room, shall be from time to time cleansed and kept in repair and the oil for the lamps supplied by the servants and at the cost of the contractor. The master or commander of each of the said vessels shall also, if required, provide assistance for conveying the mails between the mail room and the sorting room, and also render such other assistance as may from time to time be needed without charge.

9. Master to take charge, if required.

9. If the Postmaster-General shall think fit to entrust the charge and custody of the mails to the master or commander of any vessel to be employed under this contract, and in all cases where the officer or other person appointed to have charge of the mail shall be absent to the knowledge of the master or commander of such vessel such master or commander shall without any charge take due care of, and the contractor shall be responsible for, the receipt, safe custody, and delivery of the said mail at the several appointed places on shore in the respective ports, as part of the services hereby contracted to be rendered. The master or commander shall also make the usual Post Office declaration and furnish such journal returns and other information and perform such other services as the Postmaster-General or his officers shall from time to time reasonably require.

10. To obey directions.

10. The contractor and all commanding and other officers in charge of the vessels employed under this contract shall at all times punctually attend to the orders and directions of the Postmaster-General, or his officers or agents, as to the mode, time, and place of landing, transhipping, delivering, and receiving the mails, subject to the special provisions herein contained, and so far as such orders and directions are reasonable and consistent with the safety of the vessels.

11. Passenger accommodation for the officers of the Post Office.

11. The contractor shall provide suitable first-class accommodation, including a cabin or state-room, for the exclusive use of a mail officer or agent of the Postmaster-General and for one assistant on board each of the vessels employed under this contract who shall be at liberty to use such accommodation as may be required for the performance of their duties, and such officers or agents and assistants shall be victualled by the contractor as chief cabin passengers without charge either for their passage or victualling, and whilst the vessel stays at any port excepting the ports of Sydney and Vancouver to and from which the mails are conveyed, such officers, agents, and assistants shall be allowed to remain on board and shall be victualled as aforesaid.

12. Mail officer to have full authority.

12. Every such mail officer or agent and assistant shall be recognised and treated by the contractor, his officers, and agents as the agents of the Postmaster-General, and as having full authority in all cases to require a due and strict performance of this contract. Provided that no such agent, officer, or assistant shall have power to control or interfere with any master, commander, or officer in the performance of his duty, and every such agent, officer, and assistant shall be subject to all general orders issued by the master or commander for the good order, health, and comfort of the passengers and crew and the safety of the said vessels.

13. Conveyance of mails at ports.

13. The expense of conveying mails to and from the said steamships or vessels from or to the post-offices at the terminal ports of the several voyages or at the ports at which the said vessels call *en route* shall be borne by the contractor.

14. Power to Postmaster-General to delay sailing.

14. The Postmaster-General shall, in case of need and for the purpose of duly forwarding such mails as may required, have the right to delay the sailing of any of the said steamships for the space of twenty-four hours.

15. Definition of mails.

15. The expression "mails," for the purpose of this contract, shall be deemed to mean and include all boxes, bags, or packets of letters, post-cards, newspapers, parcels, books, or printed paper, and all other articles which under the Post Office Act or Acts and Postal Regulations for the time being in force are transmissible by post in New South Wales without regard to place either of origin or destination, and also all empty bags, empty boxes, and other receptacles, stores, and articles used or to be used in carrying on the Post Office service, or which shall ordinarily be sent by or to or from the Post Office.

16. Not to carry other letters.

16. The said Contractor shall not, nor shall the master or officers of any of the said steamships, receive or permit to be received on board of either of such steamships at any New South Wales port any letters for conveyance other than those contained in Her Majesty's mails, or which are or may be privileged by the law, nor the mails of any other country except such as may be specified by the Postmaster-General for the time being, and the said contractor shall in all respects be subject to all the postal laws of New South Wales and all the regulations lawfully made thereunder.

17. Nitro-glycerine &c. not to be carried.

17. The contractor shall not convey in any steamship employed by him under this contract any nitro-glycerine or any other article which shall have been proclaimed as an explosive or explosive substance, or shall have been legally declared specially dangerous, or shall be so declared by the Postmaster-General by notice in writing.

18. Not to assign.

18. This contract shall not nor shall any right or interest therein be assigned, underlet, or otherwise disposed of without the consent in writing of the Postmaster-General to such assignment having been first obtained, provided, however, that if such proposed assignment is to be to a joint stock company, of which the contractor shall be a stockholder, such consent as aforesaid shall not be required.

19. The said contractor shall from time to time furnish to the Postmaster-General full and complete copies of the manifests of the cargoes and lists of the passengers carried by each of the said steamships on its outward and its homeward voyages, certified by the proper Customs officials, and also such other documents, information, and evidence as may be reasonably required by the Postmaster-General to show the volume, extent, and value of the trade carried on by the said steamships, and such other Customs certificates, documents, and evidence as may be necessary or as may be reasonably required by the Postmaster-General to prove the performance of the service herein contracted for, and to enable the Postmaster-General to judge as to whether this contract is being properly and faithfully carried out and performed, and the furnishing of such certificates, documents, information, and evidence as hereinbefore specified shall be a condition precedent to the due payment of the subsidy hereinafter provided or any portion thereof. 19. To furnish copies of manifests.

20. And the said Postmaster-General for himself and his successors covenants to and with the said contractor that he and they well and faithfully performing all and every the covenants, agreements, and stipulations hereinbefore on his and their part set forth and contained, he the Postmaster-General will well and truly pay or cause to be paid to him or them during the continuance of this contract a subsidy of eight hundred and thirty-three pounds six shillings and eightpence sterling for each and every round trip performed by each of the said steamships in accordance with the intention of these presents payable in New South Wales, the first subsidy for the first round trip to be payable and paid within ten days after the arrival of the first of the said steamships from Vancouver in the performance of this contract, and the remaining subsidies to be payable and paid respectively within ten days after the succeeding arrivals of the said steamships at Sydney in the performance of this contract, the subsidy in respect of the last round voyage to be performed in pursuance of this contract not to become payable however until such round voyage shall have been satisfactorily completed, provided, however, that no amount or instalments of subsidy shall be payable at any time unless it appears to the satisfaction of the Postmaster-General that up to the time of such payment there has been no breach on the part of the said contractor of any of the covenants, provisions, or stipulations of this contract. 20. Covenant for payment of subsidy.

21. If at any time or times the mails required to be conveyed by the contractor under this agreement between Sydney and Vancouver shall not be conveyed from Sydney to Vancouver or from Vancouver to Sydney within the respective periods of transit hereinbefore prescribed in that behalf; then, and so often as the same shall happen, there shall be deducted from the subsidy which, but for this provision, would be payable to the contractor, a sum of £30 for every complete period of twenty-four hours by which the time actually occupied in the conveyance of such mails from Sydney to Vancouver or from Vancouver to Sydney, as the case may be, shall have exceeded the period of transit hereinbefore prescribed in that behalf. Provided always, that no deductions shall be made from the said subsidy by reason of any such default or failure as in this clause mentioned which may be proved to the satisfaction of the Postmaster-General to have arisen wholly or in part from any cause or causes altogether beyond the control of the contractor. 21. Deduction for delay.

22. Each of the deductions hereinbefore mentioned and hereby agreed to be made, shall be made, and the subsidy be reduced accordingly, although no damage or loss shall have been sustained by reason of, or in connection with, such default, and (except in such cases as in the last preceding clause hereof expressly provided) from whatever cause or causes any such failure or default shall have arisen; and no such deduction shall in any case be deemed to be a penalty, or in the nature of a penalty, and the payment by the Postmaster-General of what shall from time to time remain due in respect of the said subsidy after making any such deductions as aforesaid, shall in no case prejudice the right of the Postmaster-General to treat the failure of the contractor to provide an appropriate vessel at any appointed place or time, or to perform any service at or within the appointed period, as a breach of this contract. 22. The deductions not to be penalty.

23. This contract shall remain in force until thirty-six round voyages have been performed according to the true intention of these presents, provided that the Postmaster-General shall have the right at any time, by notice in writing under his hand, to determine this contract, and every matter and thing herein contained, if it shall appear to him that there has been any material breach on the part of the said contractor of any of the covenants, stipulations, agreements, or provisions herein contained and entered into on the part of the said contractor; and it is hereby declared and agreed that the Postmaster-General shall at all times be the sole and final judge as to whether there has been any such breach, and his determination shall be final and conclusive. 23. Duration of contract.

24. Provided, however, and it is the true intent and meaning of these presents that if the said steamships, or either of them, or any steamship replacing either of such steamships under this proviso, shall be, by the perils of the sea or other unavoidable casualty, lost, destroyed, or temporarily disabled from performing their voyages according to the true intent and meaning of the agreements, stipulations, and provisions herein contained, such loss or disability shall not be deemed to be a breach of these presents or any matter or thing herein contained; but the said contractor shall in such case, as soon as reasonably may be, having regard to the circumstances, replace the said steamship so lost or destroyed by another of equal class, speed, equipment, character, and capacity, to the satisfaction and approval of the Postmaster-General, or to the like satisfaction and approval repair the damage done, in case the said steamship has been only temporarily disabled, and continue the said service herein contracted for with such substituted or repaired steamship with as little loss of time as possible under all the circumstances. Provided always, that there shall be no payment of any subsidy in respect of any voyage not actually and fully performed. Provided further, that the Postmaster-General shall be the sole and only judge, and have the final right of determination as to whether any suspension or temporary discontinuance of, or delay in, the said regular monthly service has been actually caused by the perils of the sea or other unavoidable casualties within the meaning of this proviso, and his finding and determination thereon shall be conclusive. 24. Proviso for replacing steamers disabled.

25. All notices or directions which the Postmaster-General, his officers, agents, or others are hereby authorised to give to the contractor, his officers, servants, or agents, other than any notice of the termination of this contract, may, at the option of the Postmaster-General, his officers, agents, or others, either be delivered or sent by post to the master of any of the said vessels, or any other officer or agent of the contractor in the charge or management of any vessel employed in the performance of this contract, or left for the contractor at or sent by post to the contractor's agents office or house of business in Sydney or any other place, and any notices or directions so given, left or sent by post, shall be binding on the contractor. Provided always that any notice of termination of this contract shall be left for the contractor at the office or last known office of his agents in Sydney, or sent by post to such office. 25. Notices.

In witness whereof, The Honorable Joseph Cook, the Postmaster-General for the Colony of New South Wales, has hereunto set and affixed his hand and seal as such Postmaster-General, and the said James Huddart has hereunto set and affixed his hand and seal the day and year first herein written.

Signed, sealed, and delivered by the said The Honorable Joseph Cook, in the presence of,— } JOSEPH COOK. [L.S.]

S. H. LAMBTON,
Deputy Postmaster-General.

Signed, sealed, and delivered by Robert Grayson, as the Attorney of and in the name and on behalf of the abovenamed James Huddart, in the presence of,— } ROB. GRAYSON, Attorney for JAMES HUDDART. [L.S.]

A. E. KENDALL.

APPENDIX D.

APPENDIX D.

CONVENTION for the Exchange of Parcel Mails between the Colony of New South Wales on the one side and the Colony of Straits Settlements on the other.

1. The parties to this Convention are the Colonies of New South Wales and Straits Settlements. The offices of exchange for parcel mails shall be Sydney and Singapore. Parcel mails shall, for the present, be forwarded by the fortnightly steamers of the Peninsular and Oriental Company only.

2. New South Wales may forward parcels addressed to Singapore, and Singapore may forward parcels addressed to any post town in New South Wales, enumerated on the schedule attached. Such parcels shall be delivered without charge to the addressees, except for Customs duties on dutiable articles in New South Wales.

3. In all matters of detail connected with the exchange of parcels, the rules governing the exchange of parcels between the Colony concerned and the London office shall be followed as far as possible. The maximum dimensions of parcels shall be 3 feet 6 inches in length, or 6 feet in length and girth combined. The maximum weight of any parcel shall be eleven (11) pounds.

4. New South Wales shall communicate to the Colony of Straits Settlements the inland rates which must be credited to such Colony on parcels despatched to it from Singapore, as well as a statement of any special details necessary to be observed in the exchange of parcels with such Colony.

5. Each parcel mail shall be accompanied by a parcel bill similar in form to that used in exchange with the London office. The despatching office will be liable to pay—

1. If the Colony of New South Wales—

   (*a*) A sea rate of 4d. per pound on the net weight of parcels despatched.
   (*b*) An inland rate of 4d. per pound computed parcel by parcel to Singapore.

2. If the Colony of Straits Settlements—

   (*a*) The above sea rate of 4d. per pound.
   (*b*) An inland rate of 4d. per pound computed parcel by parcel to New South Wales.

6. The above sea rates of 4d. per pound will be defrayed by the London office, and the Colonies concerned will therefore credit that office with the rate named.

7. The Convention shall come into force on the 1st May, 1895.

Signed in duplicate, at Sydney, this 15th day of March, 1895.

JOSEPH COOK,
Postmaster-General.

Signed at Singapore this 21st day of January, 1895.

H. A. O'BRIEN,
Postmaster-General.

APPENDIX E.

AMENDMENT of the Arrangement for an Exchange of Parcels between the Post Office of India and the Post Office of New South Wales.

WE, the undersigned, duly authorized by our respective Governments, being desirous of applying to the exchange of postal parcels between India and New South Wales the union principle of making a charge in the case of undelivered parcels returned to the office of the country of origin, also with the object of setting forth the procedure to be adopted in regard to mis-sent parcels, and for other purposes, have agreed to cancel Article 11 and the last clause of Article 12 of the arrangement for the exchange of parcels referred to, concluded at Sydney on the 6th June, and at Simla on the 19th July, 1892, and to substitute the following in lieu thereof :—

Mis-sent parcels are forwarded to their destination by the most direct route at the disposal of the office retransmitting them. When this retransmission involves the return of the parcels to the office of origin the amounts credited in the invoice of that office are cancelled, and the retransmitting office of exchange delivers these articles to the corresponding office, simply recording them on the invoice, after having called attention to the error by means of a verification certificate. In other cases, and if the amount credited to the retransmitting office is insufficient to cover the expenses of retransmission which it has to defray, it recovers the difference by raising the amount entered to its credit in the invoice of the despatching office of exchange. The reason for this rectification is notified to the said office by means of a verification certificate. Postal parcels redirected in consequence of the removal of the addressees from one country to the other, or to another country to which postal parcels can be sent from India or New South Wales, as the case may be, are subjected by the delivering office to a charge to be paid by the addressees, representing the quota due to this latter office, to the redirecting office, and to each intermediary office, if there be any. The redirecting office credits itself with its quota by charging it to the intermediary office, or to the office of the new destination. But if the amount chargeable for the further conveyance of a redirected parcel is paid at the time of its redirection, the parcel is dealt with as if it had been addressed direct from the retransmitting country to the country of destination, and delivered without any postal charge to the addressee.

The senders of parcels which cannot be delivered shall be consulted as to the manner in which they wish to dispose of them. Communications on the subject shall be exchanged direct between the two offices of exchange. If within six months after the despatch of a letter of inquiry the office of destination has not received adequate instructions, the parcel will be returned to the office of origin. The parcel should also be returned if its delivery at a new address cannot be effected. Articles liable to deterioration or corruption may, however, be sold immediately, without previous notice or judicial formality, for the benefit of the right party. An account of the sale is drawn up.

Parcels which have to be returned to the sender are entered in the invoice with the addition of the word "Returned" in the column for remarks. They are dealt with and taxed like articles redirected in consequence of the removal of the addressees.

Parcels which cannot be delivered, returned to the sender, or otherwise disposed of, are sent back to the country of origin for disposal. Such parcels are entered in the invoice with the addition of the word "Returned" in the column for observations; and the redirecting country takes credit for the amount due to it as in the case of parcels redirected in consequence of the removal of the addressees.

Any parcel, the addressee of which has left for a country to which postal parcels cannot be forwarded from India or New South Wales, as the case may be, is dealt with as undeliverable.

If one of the prohibitions provided for in Article 6 is brought to light in the course of post, the parcel is without other formality returned to the despatching office in the manner provided for in the first paragraph of the present article.

This amended arrangement shall be brought into operation as from the 1st April, 1895.

Done in duplicate, and signed at Sydney, the 8th March, 1895; and at Simla, the 9th April, 1895.

JOSEPH COOK,
Postmaster-General of New South Wales.

H. M. KISCH,
Offg. Director-General of the Post Office of India.

APPENDIX F.

APPENDIX F.

COMPARATIVE Return showing the Number and Amount of Money Order Transactions in New South Wales with various countries for the year 1895, compared with the year 1894.

Year.	UNITED KINGDOM (AND COUNTRIES OTHER THAN THOSE HEREINAFTER NAMED).				NEW ZEALAND.				QUEENSLAND.				SOUTH AUSTRALIA.				TASMANIA.				VICTORIA.			
	Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£		£		£		£		£		£		£		£		£
1895	23,549	67,198	12,733	40,974	4,591	14,596	10,815	29,132	27,357	43,885	16,643	56,704	8,530	26,000	4,635	14,242	2,517	8,064	3,405	8,803	30,554	90,016	17,167	55,421
1894	24,776	74,594	13,235	44,430	4,593	15,839	9,200	23,072	27,796	42,254	14,924	53,756	9,428	29,309	4,540	14,618	2,638	8,307	3,139	9,105	32,952	95,173	17,607	58,519
Increase...	.....	.....	...	.....	.....	.....	1,615	60	.....	1,631	1,719	2,948	.....	.....	95	.....	.....	.....	266	.....	.....	.....	.....	.....
Decrease..	1,227	7,396	502	3,456	2	1,243	.....	.....	439	.....	.....	.....	898	3,309	.....	376	121	243	.....	302	2,398	5,157	440	3,098

Year.	WESTERN AUSTRALIA.				HONG KONG.				INDIA.				UNITED STATES.				CANADA.				CAPE OF GOOD HOPE.				GERMANY.			
	Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
		£		£		£		£		£		£		£		£		£		£		£		£		£		£
1895	1,488	11,550	9,278	42,071	690	3,157	46	160	938	6,845	219	819	1,708	5,059	925	4,512	146	625	253	1,002	109	520	1,034	6,787	811	2,913	293	1,753
1894	1,259	9,816	4,170	17,748	762	3,849	79	297	847	7,333	226	958	1,530	4,426	785	3,902	158	754	287	1,352	110	578	861	5,730	819	3,036	257	1,439
Increase..	229	1,734	5,108	24,323	.....	.....	.....	.....	91	.....	.....	.....	178	633	140	610	.....	.....	.....	.....	.....	.....	173	1,057	...	...	36	314
Decrease..	.....	.....	...	.....	72	692	33	137	.....	488	7	139	.....	.....	.....	.....	12	129	34	350	1	58	.....	.....	8	123	...	...

Year.	ITALY.				CEYLON.				STRAITS SETTLEMENTS.				MAURITIUS.				TOTAL FOREIGN MONEY ORDER TRANSACTIONS.				N.S.W. INLAND ISSUES.		GRAND TOTAL OF N.S.W. ISSUES.	
	Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W. on other countries		Issued in other countries on N.S.W.					
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£		£		£		£		£		£		£		£		£
1895	370	2,416	17	130	136	474	54	130	12	39	38	77	38	72	10	9	103,544	283,429	77,565	262,726	302,691	985,771	406,235	1,269,200
1894	345	2,846	28	187	101	441	55	109	12	13	30	50	51	66	15	80	108,177	293,634	69,438	241,352	323,240	1,017,003	431,417	1,315,637
Increase..	25	.....	...	.....	35	33	...	21	...	26	8	27	...	6	...	.....	.....	.....	8,127	21,374	.....	.....	.....	.....
Decrease..	...	430	11	57	...	.....	1	.....	...	.....	...	.....	13	.....	5	71	4,633	15,205	.....	.....	20,549	31,232	25,182	46,437

THE following is a Statement of the total Number and Amount of Money Orders issued and paid during the year 1895:—

	Issued.				Paid.			
	No.	Amount.			No.	Amount.		
		£	s.	d.		£	s.	d.
Inland	302,691	985,771	3	1	305,887	997,313	7	3
Intercolonial	75,037	194,112	2	9	60,062	159,728	3	11
International.....	28,507	89,317	3	0	14,343	90,193	8	10
Totals.....	406,235	1,269,200	8	10	380,292	1,247,235	0	0

APPENDIX G.

Money Order Convention between the Colony of the Cape of Good Hope and the Colony of New South Wales.

The Governor of the Colony of the Cape of Good Hope and the Governor of the Colony of New South Wales being desirous of regulating the system of exchange of money orders between the two colonies have agreed on behalf of their respective Governments upon the following articles :—

Article 1.

There shall be a regular exchange of money orders between the two colonies. The maximum amount for which a money order may be drawn in the Cape Colony upon the Colony of New South Wales, and the maximum amount for which a money order may be drawn in the Colony of New South Wales upon the Cape Colony shall be £10 sterling.

No money order shall include a fractional part of one penny.

Article 2.

The Government of the Cape Colony shall have power to fix the rates of commission on all money orders issued in the Cape Colony, and the Government of the Colony of New South Wales shall have the same power in regard to all money orders issued in the Colony of New South Wales.

Each office shall communicate to the other its tariff of charges or rates of commission which shall be established under this Convention and these rates shall, in all cases, be payable in advance by the remitter, and shall not be repayable.

It is understood, moreover, that each office is authorised to suspend temporarily the exchange of money orders in case any circumstance should give rise to abuses or cause detriment to the postal revenue.

Article 3.

Each colony shall keep the commission on all money orders issued within its jurisdiction, but shall pay to the other colony three-quarters per centum on the amount of such orders.

Article 4.

With the following exceptions, no money order shall be issued unless the applicant furnish in full the surname and at least the initial of one christian name, both of the remitter and the payee, together with the address of the remitter for entry in the "issuing" journal, so that if necessary, he may be traced. If the remitter or payee be a Peer, or a Bishop, his ordinary title shall be sufficient ; if a firm, its usual designation.

Article 5.

Every money order and advice shall be drawn on the authorised form set forth in the schedule herewith annexed marked "A."

Article 6.

All payments for money orders, whether by the public to the Post Office, or by the Post Office to the public, shall be made in sterling money.

Article 7.

Before payment is made of any money order issued under this Convention, the signature of the payee shall be affixed to the order in the place provided for the purpose.

If the payee be unable to write, he shall sign the receipt by making his mark in the presence of a witness who should not, if possible, be a person connected with the Post Office, and such witness shall sign his name in attestation of such mark and payment.

In other respects, the payment of orders shall be subject to the regulations which govern the payment of "inland" orders of the colony on which they are drawn. The paid orders shall remain in the possession of the colony of payment.

Article 8.

When the payee of a money order desires to receive payment at a post office in the colony on which the order was issued other than that upon which the order was originally drawn, the transfer shall be permitted, provided the order be duly signed and sent to the postmaster of the office on which it was drawn.

In such a case, a new order shall be issued by the postmaster of that office, who will deduct from the amount thereof a commission at the rate chargeable under the regulations for the time being of the colony upon which the order was drawn.

Article 9.

Duplicate orders shall only be issued by the Postal Administration of the colony on which the original orders were drawn, and in conformity with the regulations established or to be established in that colony.

Article 10.

On the receipt of an application for the stoppage of payment of a money order, instructions will be given to stop payment.

Article 11.

Errors in the name of the remitter, or of the payee, or in the amount of an order may be corrected by the Post Office of the colony in which the order was issued.

Article 12.

Repayment of orders to remitters shall not be made until an authorisation for such re-payment shall first have been obtained by the colony of issue from the colony upon which such orders were drawn, and the amount of the repaid orders shall be duly credited to the former colony in the accounts. It is the province of each Postal Administration to determine the manner in which re-payment to the remitters is to be made.

Article 13.

Payment of an order must be obtained before the end of twelve calendar months after that in which it was drawn ; for instance, if drawn in January, and not paid before the end of the following January, all claim to the order will be forfeited, unless under exceptional circumstances, the Postmaster-General of the colony in which the order was issued, shall think proper to authorise its renewal. Orders which shall become void, and the sums accruing therefrom shall be at the disposal of the country of origin.

The Post Office of the Cape Colony shall, therefore, enter to the credit of the Colony of New South Wales in the quarterly account all money orders entered on the lists received from the Colony of New South Wales, which remain unpaid at the end of the period specified. In like manner, the Post Office of the Colony of New South Wales shall enter to the credit of the Cape Colony all money orders entered on the lists received from the latter colony, which shall under the terms of the Article become void.

Article 14.

After once paying a money order, by whomsoever presented, the colony of payment shall not be liable for any further claim.

Article

Article 15.

The service of the postal money order system between the two Colonies shall be performed through the agency of offices of exchange. On the part of the Cape Colony the office of exchange shall be Cape Town, and on the part of the Colony of New South Wales, Sydney.

Article 16.

Orders shall be drawn only on the authorised Money Order Offices of the respective Colonies, and each Postal Administration shall furnish to the other a list of such offices and shall from time to time notify any addition to or changes in such list.

Article 17.

The advices of all orders drawn upon the Colony of New South Wales by Offices in the Cape Colony, and *vice versa*, shall be sent by the office of issue to the office of exchange in the Colony in which the orders are drawn, where the particulars and amount of the orders shall be entered by such office upon a list similar to that set forth in schedule "B," which list, together with the advices, shall be transmitted by first post to the office of exchange in the Colony upon which the orders are drawn.

The advices shall on receipt at the latter office of exchange be compared with the entries on the list, stamped with the dated stamp, and sent forward without delay to the offices of payment.

Article 18.

A duplicate copy of each list of advices shall be sent to the office of exchange in the Colony of payment by the first mail after the despatch of the original list.

Artlcle 19.

The original list shall form the basis of account between the two Colonies.

Article 20.

The Colony of the Cape of Good Hope shall render to the Colony of New South Wales a quarterly statement of account, and if the balance be in favour of the Colony of New South Wales, the amount of such balance shall be paid in London by the Agent General of the Cape of Good Hope, to the order of the Controller of the Money Order Office of the Colony of New South Wales.

If, on the other hand, the balance be in favour of the Cape Colony, the amount shall be paid to the Agent General of the Colony of the Cape of Good Hope, in London. These accounts shall be in accordance with the forms set forth in schedules "C" and "D" to this Convention.

Article 21.

The Money Order Office of payment in each Colony shall not pay any order unless the relative advice has previously been received, and unless both order and advice bear the dated stamp of the office of issue.

Article 22.

The postal administration in each Colony shall be authorised to adopt any addition rules, if not repugnant to the foregoing for the greater security against fraud, or for the better working of the system generally. All such additional rules, however, shall be communicated to the Post Office of the other Colony.

Article 23.

This Convention shall take effect upon the 1st day of January, 1895, and shall continue in force until twelve months after either of the contracting parties shall have notified to the other its intention to terminate it.

Given under my hand and the Public Seal of the Colony of the Cape of Good Hope, at Cape Town, on the 12th day of February, 1895.

[Seal.] HENRY B. LOCH,
Governor.

Given under my hand and the Great Seal of the Colony of New South Wales, at Sydney, on the 4th day of April, 1895.

[Seal.] FREDK. M. DARLEY,
Lieutenant-Governor.

By His Excellency's Command,
JAMES N. BRUNKER.

SCHEDULE A.

CAPE OF GOOD HOPE.

(Name of office to be printed here.)

No.....

£	s.	d.

Stamp of Issuing Office.

MONEY ORDER.

Pay the person named in my letter of advice (upon stating the name of the remitter) the sum of £..... s..... .....d..... ..... upon the office at.....

.....Postmaster.

The person to whom this order is made payable must sign his or her christian and surname. In the case of firms, the usual signature will suffice, if so advised to the Paying Officer.

Received the above amount.

.....Signature of Payee.

If the Payee or Remitter of this order should require payment at any other office than the office on which it was originally drawn, the following request must be signed, and the order must be receipted and forwarded in a proper form, which may be obtained at any money order office to the postmaster of the office where it was originally made payable, who will send a new order for the amount less the commission.

B. I request that this may be exchanged for a new order, payable at*.....

* Here state name of office.

.....Signature.

This order is not payable until the corresponding advice has been received. After once paying a money order, by whomsoever presented, the office will not be liable to any further claim. Twelve months after issue, this order is void, and all claim to it is lost.

Further information regarding money orders may be obtained at the several money order offices.

Stamp of Paying Office.

CAPE OF GOOD HOPE.

No.....

£	s.	d.

Stamp of Issuing Office.

ADVICE

of Money Order drawn by the abovenamed office for £.....s..... ....d .... upon the office at..... ....

.....Postmaster.

The Payee :—viz., the person to whom the Order is payable.

Christian Name.	Surname.

The Remitter :—viz., the person who paid in the money and obtained the Order.

Christian Name.	Surname.

This advice must be signed and stamped by the Postmaster who draws the order, and must be stamped on the outside with the date of receipt by the Postmaster on whose office it is drawn. When payment is made, the stamp of the date of payment must be affixed in the space provided at the foot of the advice on the inside. It must be retained at the Paying Office until the corresponding order has been received. The advices relating to orders paid must be forwarded to the Secretary, General Post Office, Cape Town, with the accounts when rendered. At the end of each month the advices relating to void orders must be forwarded to the Secretary, the word "void" being written across the advice.

N.B.—A separate Advice must invariably be sent for each Order.

Stamp of Paying Office.

SCHEDULE B.

List _____

LIST of Money Orders issued in the Colony of the Cape of Good Hope, and payable in the Colony of New South Wales, despatched by the mail of the _____.

Office stamp.

Date of Issue.	No. of Order.	Where issued.	Where payable.	To whom payable.	By whom remitted.	Amount. £ s. d.	For use of Chief Office, New South Wales. Date of Payment.	Paid in year of Issue.	Paid in following year.	Renewable Orders.

Entered by _____

Examined by _____ _____ Secretary.

SCHEDULE C.

STATEMENT of Account of Money Order transactions between the Colony of the Cape of Good Hope and the Colony of New South Wales for the Quarter ended the _____, 189 .

To the credit of the Colony of New South Wales.	£	s.	d.	£	s.	d.	To the credit of the Colony of the Cape of Good Hope.	£	s.	d.	£	s.	d.

General Post Office,
Cape Town, _____, 189 .

SCHEDULE D.

SCHEDULE D.

TABLE showing the particulars of such Orders as may have become void during the Quarter ended the_____, 189 .

No. of Order.	Date of Order.	Where issued.	Amount. £	s.	d.	Remarks.

TABLE showing the particulars of such Orders as have been repaid to the Remitter in the Colony of Issue.

No. of Order.	Date of Order.	Where issued.	Amount. £	s.	d.	Remarks.
Total credit of Cape Colony Office						

APPENDIX H.

AMENDMENT of Articles 22 and 25 in arrangement respecting the interchange of money orders between New South Wales and India.

WE, the undersigned, being duly authorised by our respective Governments, have agreed to replace Articles 22 and 25 of the arrangement concluded in 1881, for the interchange of money orders between the Post Office of New South Wales and the Post Office of India, by the following articles :—

Article 22.—As soon as the New South Wales Office of Exchange shall have received from India all the lists bearing dates in any month, these lists as well as the New South Wales lists bearing dates in the same month shall be made the subject of a monthly account in the annexed form "B."

Article 25.—A copy of the account mentioned in Article 22 shall be forwarded to the Indian office of exchange, with payment by bill of exchange on London, if the balance be in favour of India, and for payment by bill of exchange on Sydney if the balance be in favour of New South Wales.

The above provisions shall be brought into operation as from the 1st July, 1894.

Done in duplicate and signed at Sydney, the 9th day of July, 1894, and at Simla, the 1st September, 1894.

JOHN KIDD,
Postmaster General, New South Wales.
H. M. KISCH,
Officiating Director General of the Post Office of India.

MONTHLY account of money order exchanges between New South Wales and India, prepared by the New South Wales office of exchange for the month of 189 .

To the credit of New South Wales. For orders drawn by India, by means of the following Indian (A) lists, bearing dates in the above month.					To the credit of India. For orders drawn by New South Wales, by means of the following New South Wales (AA) lists, bearing dates in the above month.				
List No.	Final entry, No. of list.	Amount of orders. £	s.	d.	List No.	Final entry, No. of list.	Amount of orders. £	s.	d.
Total.....					Total.....				
Commission on above, at ½ per cent.....					Commission on above, at ½ per cent.....				
Void orders and orders for the repayment of which to remitters in New South Wales authority was given in the Indian lists above mentioned					Void orders and orders for the repayment of which to remitters in India authority was given in the New South Wales lists above mentioned.....				
Special items detailed in annexure					Special items detailed in annexure.....				
Balance in favour of India					Balance in favour of New South Wales...				
Total.....					Total.....				

APPENDIX I.

APPENDIX I.

GOVERNMENT SAVINGS BANKS.

STATEMENT of Accounts for the year 1895.

	£	s.	d.		£	s.	d.
To Balance brought forward from 1894	3,633,325	2	7	By Repayments to Depositors during 1895	1,834,999	9	8
Cash received from Depositors during 1895	2,194,133	15	10				
Interest added to Depositors' Accounts	128,640	10	9	Balance	4,121,699	19	6
£	5,956,699	9	2	£	5,956,699	9	2

LIABILITIES AND ASSETS.

	£	s.	d.		£	s.	d.
To Balance due to all Depositors at close of the year	4,121,699	19	6	By New South Wales Government Debentures	102,700	0	0
				New South Wales Funded Stock, 56 Vic. No. 1	1,000,000	0	0
				New South Wales Funded Stock, 36 Vic. No. 21	296,466	13	11
				New South Wales Treasury Bills, 53 Vic. No. 9	959,000	0	0
				New South Wales 1924 Stock, 58 Vic. No. 14	20,000	0	0
				New South Wales 1925 Stock, 59 Vic. No. 6	50,000	0	0
				New South Wales Funded Stock, 59 Vic. No. 6	180,000	0	0
				Cash at Credit Savings Bank Trust Account	1,398,407	3	6
				Cash in the hands of the Controller	31,933	16	3
				Interest due on investments	36,566	9	5
				Interest on uninvested funds at 3%	41,384	17	9
				Amount to be transferred from surplus Savings Bank Fund	5,240	18	8
£	4,121,699	19	6	£	4,121,699	19	6

PROFIT AND LOSS.

	£	s.	d.		£	s.	d.
To Interest added to Depositors' Accounts	128,640	10	9	By Balance from preceding Account	9,061	1	4
Amount Transferred to Treasury	5,000	0	0	Interest received on investments	86,288	13	0
Departmental Expenses (to be transferred)	8,000	0	0	Interest on uninvested funds	41,384	17	9
Premium paid on investments	335	0	0	Amount to be transferred from surplus funds	5,240	18	8
£	141,975	10	9	£	141,975	10	9

A. J. DOAK, Controller.
Government Savings Bank, Sydney, 19th March, 1896.

JOSEPH COOK,
Postmaster-General.

I CERTIFY that the foregoing statement of all deposits received and paid from 1st January to 31st December, 1895, has been examined and found to correspond with the Books and Accounts of the Government Savings Bank.

E. A. RENNIE,
Auditor-General.

31st March, 1896.

Sydney: Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

POSTAL AND TELEGRAPHIC CONFERENCE.

(REPORT OF THE DELEGATES TO THE INTERCOLONIAL CONFERENCE, HELD IN SYDNEY IN JANUARY, 1896)

Printed under No. 1 *Report from Printing Committee,* 21 *May,* 1896.

President :—The Honorable JOSEPH COOK, M.P., of New South Wales.

Each of the seven Colonies of Australasia was represented.

The Conference sat on the 17th, 18th, and 20th January, 1896.

The following resolutions were adopted, viz. :—

RELATING TO THE PROPOSED PACIFIC CABLE.

1. That, in the opinion of this Conference, the Pacific cable should be constructed and owned jointly by the various Governments interested.
2. That, in the opinion of this Conference, the landing places of such cable should be only upon territory belonging to or under the control of the British Empire.
3. That, in the opinion of this Conference, the cost of its construction, working, and maintenance be borne in the following proportions, namely :—Great Britain, one-third; the Dominion of Canada, one-third; and the contributing Australasian Colonies, one-third.
4. That, in the opinion of this Conference, the route from Fiji to Australia be *via* Norfolk Island, thence bifurcating to the nearest convenient landing places in the north of New Zealand and Moreton Bay respectively.
5. That, in the opinion of this Conference, it is highly desirable that South Australia join the other Colonies in the Pacific cable project, and having regard to their vested interests in the transcontinental line, Dr. Cockburn be invited to make a proposition, embodying the terms on which the South Australian Government would be prepared to join the other Colonies in the said project.

The Hon. Dr. Cockburn intimated the following as the proposal of the South Australian Government, viz. :—South Australia is willing to join in the project provided that a guarantee, either from the contributing Colonies alone, or jointly with the Imperial Government, be given, that the financial position of South Australia, as regards the Port Darwin line be maintained on the basis of the average of the last five years.

The Hon. Mr. Reeves stated that he had received a cable from the Hon. Mr. Ward with regard to the terms on which New Zealand would come in as a contributing Colony to the effect that of course it would be very disadvantageous to New Zealand to come in on an equally responsible footing with the other three Colonies; at the same time, Mr. Ward would be prepared to give way and do so, annexing, however, the stipulation that Victoria and New South Wales should join with New Zealand in facing any possible loss on the present cable,

6.

6. That, in the opinion of this Conference, the Colonies joining contribute equally to the undertaking.

(The Hon. Dr. Cockburn and the Hon. Mr. Reeves refrained from voting on the above.)

7. That, in the opinion of this Conference, in consideration of South Australia joining with the other contributing Colonies in the Pacific Cable project, they would be willing, jointly with Great Britain, to guarantee that Colony against further loss in connection with their transcontinental line in consequence of the construction of the new cable.

8. That, in the opinion of this Conference, Sir Saul Samuel, K.C.M.G., C.B., and the Hon. Duncan Gillies be nominated as representatives of the Australasian Colonies on the Commission in connection with the Pacific Cable, and that they be requested to consult on all important points the Agents-General for the Australasian Colonies.*

9. That, in the opinion of this Conference, it be a recommendation to the Governments represented at this Conference to forward the foregoing resolutions to the Australasian Commissioners.

RELATING TO THE PROPOSED NEW FEDERAL MAIL SERVICE.

10. This Conference, having considered the reply of the London office to the stipulation of the Hobart Conference with regard to the manning of the mail-boats by white instead of coloured labour, recognises fully the force of the reason given by the Imperial Government against insisting on the exclusion of coloured labour, viz., the necessity of discriminating between various classes of British subjects, but in reply would respectfully point out that by some steamship companies the labour of the contributing Colonies is excluded from employment, and an invidious preference given to the labour of countries which do not contribute to the maintenance of the service. No injustice would thus be done by the stipulation that the labour of the countries subsidising the service only should be employed. And therefore this Conference is of opinion that the mails to and from Australia and Great Britain should be carried by ships manned with white crews only. The Conference concurs with the London office in the other points raised in connection with the new mail tenders.

It was arranged that the President should communicate the above by cable to the London Post Office.†

Appended to this Report will be found:—

Minutes of Proceedings of the Conference.

Memo. showing the present position of the Federal Mail Service matter.

Transcript of notes of Shorthand-writer of the Proceedings.

Signed on behalf of New Zealand,
W. P. REEVES (*per* J.C.)

Signed on behalf of Queensland,
A. J. THYNNE.

Signed on behalf of South Australia and Tasmania,
JOHN A. COCKBURN.

Signed on behalf of Victoria,
JOHN GAVAN DUFFY.

Signed on behalf of New South Wales,
JOSEPH COOK.

---

* NOTE.—On page 21 will be found the nature of the instructions cabled to London. It will be seen that it has been provided that any scheme submitted by the Pacific Cable Commission shall be subject to the approval of the Governments of the respective Australasian Colonies.

† NOTE.—Subsequent telegraphic communications between the Postmaster-General of New South Wales (acting as President of the Intercolonial Postal and Telegraphic Conference) and the Postmaster-General, London, will be found on page 21.

POSTAL AND TELEGRAPHIC CONFERENCE.

MINUTES OF PROCEEDINGS.

FRIDAY, 17 *JANUARY*, 1896.

THE Conference was opened at the General Post Office, Sydney, at 2·30 p.m., when the undermentioned gentlemen, representing the Colonies indicated herein, were present, viz.:—

New Zealand:	Hon. W. P. REEVES, New Zealand.
Queensland:	Hon. A. J. THYNNE, M.L.C., Postmaster-General, Queensland.
South Australia: } *Tasmania:*	Hon. J. A. COCKBURN, M.D., M.P., Minister for Education and Agriculture, South Australia.
Victoria:	Hon. J. GAVAN DUFFY, M.P., Postmaster-General, Victoria.
New South Wales:	Hon. JOSEPH COOK, M.P., Postmaster-General, New South Wales.

Moved by the Hon. J. GAVAN DUFFY, and seconded by the Hon. Mr. THYNNE,—"That the Hon. Joseph Cook, M.P., be President of this Conference." Carried.

The Hon. Mr. Cook thanked the representatives for the honor conferred.

It was determined, without formal motion, that the Conference being of a somewhat confidential character, it was not expedient that the Press should be present.

Moved by the Hon. Mr. THYNNE, M.P., and seconded by the Hon. Mr. REEVES,—"That Mr. James Dalgarno perform the duties of Secretary to this Conference." Carried.

The Hon. Mr. COOK laid before the Conference the following telegram, dated 16th January, that had been received from the Hon. the Premier of Western Australia, *re* the appointment of Dr. Cockburn as representative of Western Australia, viz.:—

"This Government has appointed Dr. Cockburn to represent this Colony at the Postal Conference on two points: First, the Pacific cable question to the following extent, viz., that we are in favour of one Commissioner being appointed to represent South Australia and West Australia. Second, to give this Colony's vote in favour of the views expressed by me at the Hobart Conference, which were to the effect that this Government supports the Imperial Government in regard to coloured labour and cold storage as applied to mail steamers. Please communicate this telegram to the Postal Conference.

JNO. FORREST, Premier."

The Hon. Mr. COCKBURN intimated that he had also been requested to represent Tasmania.

The PRESIDENT opened the Conference in a brief address, indicating the order of business, which placed the Pacific cable matter as the first to be considered, to be followed by the question of the Federal Mail Service.

PROPOSED PACIFIC CABLE.

After a lengthy discussion the following resolutions were arrived at:—

(1.) Moved by the Hon. Mr. GAVAN DUFFY, and seconded by the Hon. Mr. THYNNE,—"That in the opinion of this Conference the Pacific Cable should be constructed and owned jointly by the various Governments interested." Carried unanimously.

(2.) Moved by the Hon. Mr. REEVES, and seconded by the Hon. Mr. THYNNE,—"That in the opinion of this Conference the landing places of such cable should be only upon territory belonging to or under the control of the British Empire." Carried unanimously.

(3.) Moved by the Hon. Mr. THYNNE, and seconded by the Hon. Mr. GAVAN DUFFY,—"That in the opinion of this Conference the cost of its construction, working, and maintenance be borne in the following proportions, namely:—Great Britain, one-third; the Dominion of Canada, one-third; and the contributing Australasian Colonies, one-third." Carried.

(4.) Moved by the Hon. Mr. GAVAN DUFFY, and seconded by the Hon. Mr. COOK,—"That in the opinion of this Conference the route from Fiji to Australia be to Norfolk Island, thence bifurcating to the nearest convenient landing places in the north of New Zealand and Moreton Bay, respectively." Carried unanimously.

(5.) Moved by the Hon. Mr. COOK, and seconded by the Hon. Mr. DUFFY,—"That in the opinion of this Conference it is highly desirable that South Australia join the other Colonies in the Pacific Cable project; and having regard to their vested interests in the transcontinental line, Dr. Cockburn be invited to make a proposition embodying the terms on which the South Australian Government would be prepared to join the other Colonies in the said project." Carried.

The Conference adjourned at 6·15 p.m. to the following day (Saturday), at 9·30 a.m.

JAMES DALGARNO,
Secretary to Conference.

JOSEPH COOK,
President.

SATURDAY,

SATURDAY, 18 *JANUARY*, 1896.

THE Conference met at 9·30 a.m.

Present:—

New Zealand: Hon. W. P. REEVES, New Zealand.
Queensland: Hon. A. J. THYNNE, M.L.C., Postmaster-General, Queensland.
South Australia: / *Tasmania:* Hon. J. A. COCKBURN, M.D., M.P., Minister for Education and Agriculture, South Australia.
Victoria: Hon. J. GAVAN DUFFY, Postmaster-General, Victoria.
New South Wales: Hon. JOSEPH COOK, M.P., Postmaster-General, New South Wales.

Minutes of yesterday confirmed.

The Hon. Dr. COCKBURN made the following statement with reference to the resolution No. 5 *re* Pacific Cable, viz.:—"South Australia is willing to join in the project provided that a guarantee, either from the contributing Colonies alone or jointly with the Imperial Government, be given that the financial position of South Australia as regards the Port Darwin line be maintained on the basis of the average of the last five years."

The Hon. Mr. REEVES stated that he had cabled to the Hon. Mr. Ward yesterday, as he had promised, with regard to the terms on which New Zealand would come in as a contributing Colony, and that a reply had been received to the effect that, of course, it would be very disadvantageous to New Zealand to come in on an equally responsible footing with the other three Colonies. At the same time, Mr. Ward would be prepared to give way, and do so, annexing, however, the stipulation that Victoria and New South Wales should join with New Zealand in facing any possible loss on the present cable.

(6.) Moved by the Hon. J. GAVAN DUFFY, and seconded by the Hon. Mr. THYNNE,—"That, in the opinion of this Conference, the Colonies joining contribute equally to the undertaking." Carried; the Hon. Dr. Cockburn and the Hon. Mr. Reeves refraining from voting.

(7.) Moved by the Hon. Mr. COOK, and seconded by the Hon. Mr. J. GAVAN DUFFY,—"That, in the opinion of this Conference, in consideration of South Australia joining with the other contributing Colonies in the Pacific cable project, they would be willing, jointly with Great Britain, to guarantee that Colony against further loss in connection with their transcontinental line in consequence of the construction of the new cable." Carried.

(8.) Moved by the Hon. Mr. THYNNE, and seconded by the Hon. Mr. REEVES,—"That, in the opinion of this Conference, the Earl of Jersey and Sir Edwyn Dawes be appointed on the proposed Commission as the representatives of the Australasian Colonies." Resolved in the negative.

Hon. Dr. COCKBURN moved,—"That a third representative be nominated to represent the special interests of the Western Colonies," but there being no support,—

The Hon. Mr. J. GAVAN DUFFY moved, and the Hon. JOSEPH COOK seconded,—"That, in the opinion of this Conference, Sir Saul Samuel, K.C.M.G., C.B., and the Hon. Duncan Gillies be nominated as representatives of the Australasian Colonies on the Commission in connection with the Pacific Cable, and that they be requested to consult on all important points the Agents-General for the Australasian Colonies." Carried.

(9.) The Hon. Mr. REEVES moved, and the Hon. Mr. THYNNE seconded,—"That, in the opinion of this Conference, it be a recommendation to the Governments represented at this Conference to forward the foregoing resolutions to the Australasian Commissioners." Carried.

The Conference adjourned at about 12·45 p.m. to Monday next.

JAMES DALGARNO,
Secretary to Conference.

JOSEPH COOK,
President.

MONDAY, 20 *JANUARY*, 1896.

THE Conference met at 11 a.m.

Present:—

Queensland: Hon. A. J. THYNNE, M.L.C., Postmaster-General, Queensland.
South Australia: / *Tasmania:* Hon. J. A. COCKBURN, M.D., M.P., Minister for Education and Agriculture, South Australia.
Victoria: Hon. J. GAVAN DUFFY, Postmaster-General, Victoria.
New South Wales: Hon. JOSEPH COOK, M.P., Postmaster-General, New South Wales.

Minutes of Saturday confirmed.

FEDERAL MAIL SERVICE.

The PRESIDENT laid a* memo. on the table, *re* the Federal Mail Service, and explained the present position of the matter, showing that the main questions of the disagreement with the British Post Office to be considered and determined were,—

1. Question of coloured labour,
2. Question of cold storage;

also a minor difference on the subject of the amounts in the compensation to be paid by contractors for loss of parcels or registered packets. Moved

---

* Appendix.

Moved by the Hon. J. COOK, and seconded by Hon. J. GAVAN DUFFY,—

"10. This Conference, having considered the reply of the London office to the stipulation of the Hobart Conference, with regard to the manning of the mail boats by white instead of coloured labour, recognises fully the force of the reason given by the Imperial Government against insisting on the exclusion of coloured labour, viz., the necessity of discriminating between various classes of British subjects, but, in reply, would respectfully point out that by some steamship companies the labour of the contributing colonies is excluded from employment, and an invidious preference given to the labour of countries which do not contribute to the maintenance of the service. No injustice would thus be done by the stipulation that the labour of the countries subsidising the service only should be employed. And, therefore, this Conference is of opinion that the mails to and from Australia and Great Britain should be carried by ships manned with white crews only."

The Conference concurred with London Office in the other points raised in connection with the new mail tenders.

It was arranged that the President should communicate the above by cable to the London Post Office.

The Hon. A. J. THYNNE moved, and the Hon. Dr. COCKBURN seconded, a vote of thanks to the Hon. Joseph Cook for the able manner in which he had presided over the proceedings of the Conference, and for his hospitality and kindness during the stay of the Delegates in Sydney. Carried by acclamation.

The Hon. JOSEPH COOK returned thanks for the compliment paid him.

The Hon. J. GAVAN DUFFY proposed, and the Hon. A. J. THYNNE seconded, a vote of thanks to Mr. James Dalgarno for his efficient services as Secretary to the Conference. Carried by acclamation.

Mr. DALGARNO acknowledged the compliment.

The Conference adjourned.

JAMES DALGARNO,
Secretary to Conference.

JOSEPH COOK,
President.

The Conference finally met on Tuesday, 21st January, 1896, when minutes of the previous meeting were read and confirmed. The Draft Report of the Conference was submitted, revised, and signed by the Delegates, the Hon. Mr. Cook intimating that he had been asked to sign on behalf of the Hon. Mr. Reeves, for New Zealand.

APPENDIX.

FEDERAL MAIL SERVICE.

Memorandum showing present position.

ON the 21st May, 1895, the Minister for Education, Adelaide, forwarded a copy of a communication from the London Post Office, dated 29th March, 1895, relating to the Federal Mail Service, and with it a draft form of tender and proposed conditions for the new contract. This was dealt with at a Conference held at Adelaide in July, 1895, and, as a result, Adelaide Office addressed a communication to London, dated 24th September, 1895, conveying the decision of the Contracting Colonies in respect to the Federal Mail Service.

The alterations which the Contracting Colonies sought are indicated in the copy of letter dated 24th September, 1895, addressed to London Post Office by the Adelaide Post Office.

On the 6th January, 1896, the following telegram was received from the Adelaide Postal Department, viz.:—

Have just received the following telegram from London:—"With every desire meet wishes colonies interested. Her Majesty's Government regret that, after careful consideration, they feel unable invite tenders for service, including cold storage, or excluding coloured labour. Reasons for this decision follow by post. Following conditions agreed to:—1st. English port departure, arrival. 2nd. Other countries' sea postage deducted from subsidy, also fines. 3rd. Balance payable ratio nineteen to fifteen. 4th. Tender form amend as suggested, except amounts in compensation clause.* Letter with supply amended forms next mail. Proposed advertise service next month. Will telegraph latest date for accepting tenders. Please telegraph acquiescence."

---

* The suggestion of Adelaide Conference was that the amount of compensation to be paid by contractors for lost parcels should be increased from £1 to £3 per parcel, and from £2 to £5 per registered postal packet, it being thought that the larger amounts were only reasonable. London Office dissents.

Ministerial Conference on Pacific Cable Matters, &c., 1896.

REPORT OF THE PROCEEDINGS.

FRIDAY, 17 *JANUARY*, 1896.

THE PRESIDENT, the Hon. Joseph Cook, thanked the delegates for electing him to preside over their small but very important gathering, and said he was glad to welcome the representatives of the other Colonies, and felt that the measures adopted at other Intercolonial Conferences rendered it unnecessary for him to occupy any time in explaining the action up to the present on the matters they had to consider. They had two very important subjects to engage their attention: the proposals in regard to the Pacific cable, and the action of the Imperial Government in regard to the tenders for the new contract for the Federal Mail Service. He felt sure all the representatives were animated by the desire to equitably adjust the respective intercolonial difficulties that have hitherto stood in the way of giving effect to the accomplishment of the long talked of Pacific cable. The whole question of the relationship of the Western Colonies to the scheme would doubtless come on for discussion, and would be dealt with in that federal spirit which was animating most of our Australasian national endeavours at the present time. He then proceeded to allude to the various routes which had been suggested, and thus opened the subject of the Pacific cable for discussion by the representatives. This discussion throughout the proceedings was of quite a conversational character, and the shorthand notes thereof are for the most part, therefore, but an outline of all that was said.

The Delegates conversed upon the proposed Pacific Cable Question in all its aspects, which led to the determination to formulate resolutions for the information and guidance of the gentlemen who may be appointed to represent the colonies on the proposed Imperial Commission. The first of these resolutions was submitted by the Hon. J. GAVAN DUFFY, and seconded by the Hon. Mr. THYNNE:—

(1.) "That in the opinion of this Conference the Pacific cable should be constructed and owned jointly by the various Governments interested."

The Hon. Dr. COCKBURN remarked: If you are appointing a Commission to inquire into this matter and make recommendations, is it not a mistake to bind them down too closely? You tell them they can only recommend in one direction in the matter of the construction of the cable: are they not, being on the spot and in touch with the latest information, likely to be able to do better service by being left with a freer hand? You say they must confine their inquiries only as regards a cable to be constructed by Government enterprise.

The Hon. Mr. THYNNE: I think we should endeavour to do away with all points of local conflicting interests, so that our representatives on the Commission will be able to state that such and such is what Australasia desires. Let Australasia speak with one voice in the matter. Of course we have not the power to dictate to the whole Commission, and we certainly have not yet all the knowledge which they are expected to gather; but it would facilitate the work of the Commission if our representatives were clearly informed of the wishes of the combined colonies, with whom it now rests to compromise among themselves all points of difference. I think considerable weight would be attached by the Commission to our opinion on those points on which we are in unity, or on which we can agree.

The Hon. Dr. COCKBURN: Does not the whole question of what we should prefer depend upon the terms on which we can get it? Mr. Sandford Fleming was at first in favour of the cable being constructed by private enterprise, but he found on inquiry that it was more likely to be successful by being taken up by the Governments. Now, he is in favour of its being done by Government.

The Hon. Mr. COOK: It seems to me that there are four or five points. First of all, whether it is to be a Government scheme or a private one. Second, as to the proportion of cost among the colonies. Third, as to the route. Fourth, the special aspect of the matter relating to South and Western Australia. Fifth, the question of representation. I think we should take these points *seriatim*.

Resolution (1) was carried unanimously.

The Hon. Mr. REEVES moved, and the Hon. Mr. THYNNE seconded:—

"That in the opinion of this Conference the landing places of such cable should be only upon territory belonging to or under the control of the British Empire." Carried unanimously.

The Hon. Mr. THYNNE moved, and the Hon. Mr. GAVAN DUFFY seconded:—

"That, in the opinion of this Conference, the cost of its construction, working, and maintenance be borne in the following proportions, namely:—Great Britain, one-third; the Dominion of Canada, one-third; and the contributing Australasian Colonies, one-third." Carried.

It being generally agreed that the cable should follow as direct a track as possible from Vancouver to Fiji, *via* Fanning Island, the discussion then took up the various proposals for the route from Fiji to Australasia, those demanding most attention being the proposal for the route direct from Fiji to Queensland, and the proposal for the route to be from Fiji to New Zealand, and thence to Queensland. It was suggested by the Hon. Mr. Cook that to meet the local differences of Queensland and New Zealand the cable should come on from Fiji to Norfolk Island, and there bifurcate to Moreton Bay on the one hand and to the northern part of New Zealand on the other hand. The merits of the various routes were talked over with the aid of maps.

The

The Hon. Mr. REEVES said New Zealand could not accept the suggestion that the cable should go simply to Queensland, New Zealand being left out. He must represent that to the Conference. If reference was made to the report of the Wellington Conference it would be seen that a resolution was passed on the question of route, which clearly suggested that the route should be from Queensland to Auckland, thence to Fiji, or from somewhere on the coast of New Zealand to the north of Auckland to Fiji.

The Hon. Mr. THYNNE objected to the Wellington Conference resolution so far as Queensland was concerned. It was not accepted by the Queensland Government.

The Hon. Mr. COOK: What is your objection, Mr. Thynne, to this Fiji to Auckland and Auckland to Brisbane suggestion?

The Hon. Mr. THYNNE: There are several objections to it. It was, in the first place, very much further, and involved some 600 or 700 miles of cable more than was required.

The Hon. Mr. REEVES: We submit, of course, that the very trifling increase of distance caused by passing to us in going from Fiji to Brisbane is absolutely no injury to Queensland. We submit that, there being no injury to Queensland, the interests of New Zealand should be conserved on a point we take to be of vital importance to us. (After some further remarks.) Well, we much prefer that route.

The Hon. Mr. COOK: North Cape, in New Zealand?

The Hon. Mr. REEVES: No; the most convenient landing place north of Auckland. Perhaps it will not be the North Cape. It is not desired to leave Queensland out at all. The cable could go from New Zealand to Brisbane by as short a route, but by going to Brisbane direct it simply leaves New Zealand out altogether. Why leave us out, when by taking us in you can be equally well served?

Further desultory conversation ensued, and the Hon. Mr. THYNNE said he would like to have certain figures verified, as they differed very considerably from the information given by his papers.

The Hon. Mr. REEVES said one difference might be explained by a misunderstanding that had arisen. People talked about the distance from Fiji to Auckland, but it was not going to Auckland, but to some place north; that would probably mean a difference of some 200 miles.

Mr. P. B. Walker, being called in, explained that the slack had been allowed for in some calculations, and much greater percentage in some cases than in others. Moreover, he did not take the figures as at all correct on some of the papers. One engineer allowed 20 per cent. for slack: Mr. Walker only allowed 10 per cent., which he thought ample. Only 6 per cent. slack was used on the New Caledonia line. Mr. Fleming's estimate of 20 per cent. was altogether too much: no cable engineer would think of putting so great an excess as that on a cable, unless it was very deep sea. It might be a mistake on the right side, but it was unnecessary, as 10 per cent. was ample; and seldom more than 7½ per cent. was used on the Atlantic cables, which were in very deep water. Mr. Walker explained the reason of a deviation in the case of the New Caledonia-Fiji route was to escape a very deep hole to the north-west of New Caledonia, and the probable damage that would be occasioned to the laying machinery in this deep water.

The Hon. Mr. COOK: I think we had better settle to take Norfolk Island as the point of bifurcation.

The Hon. Mr. REEVES: The object in accepting a compromise is generally to have a friendly settlement of a difficulty; would it be a friendly settlement? If the majority of the Conference want to settle it so, under the circumstances I will not contest the matter. I think my Government would, when I explain the matter, stand by me in accepting the position.

The Hon. Mr. THYNNE: On behalf of Queensland I am very well satisfied with the compromise proposed. I think it is the best route yet suggested, and will probably cost less than the direct line from Fiji to Queensland.

The Hon. Mr. COOK: Very well. Perhaps it would be as well for it to be moved and seconded by two of the other Colonies.

The resolution was read: "That the route from Fiji to Australia be to Norfolk Island, thence bifurcating to the nearest convenient landing place in the north of New Zealand and Moreton Bay."

The Hon. Dr. COCKBURN thought the proposition a fair one; at the same time, he deemed it a mistake to fix these details—it would only be hampering the Commissioners. Here they had figures at variance, which the Commissioners would be able to have correct and would know more about, and altogether he thought it would be better to leave the Commission untrammelled, as they would have better data to work upon.

The Hon. Mr. GAVAN DUFFY moved, and the Hon. J. COOK seconded:—

"That in the opinion of this Conference the route from Fiji to Australia be to Norfolk Island, thence bifurcating to the nearest convenient landing places in the north of New Zealand and Moreton Bay respectively." Carried unanimously.

The Hon. Mr. COOK: Now as to the apportionment of cost between the Colonies. There has been an understanding that the Colonies should take equal responsibilities in this matter.

The Hon. Mr. REEVES: Well, personally, so far as my judgment goes, I take that view too, but I am absolutely without any communication from Mr. Ward or from my Government as to their views.

The Hon. Mr. DUFFY: I should think New Zealand would take a little more than her proportion, as she has no extra expense.

The Hon. Dr. COCKBURN: Until we get some idea what the cost is expected to be, it is only making difficulties trying to apportion the shares.

The Hon. Mr. COOK: I do not think so.

The Hon. Mr. REEVES: I am rather inclined to take Dr. Cockburn's view.

The Hon. Dr. COCKBURN: It practically precludes three Colonies from coming in; Tasmania could not come in on that basis.

The Hon. Mr. COOK: I do not see myself, I candidly confess, how Tasmania and Western Australia could ever come in.

The Hon. Dr. COCKBURN: South Australia could hardly be expected to be an equal contributor, the advantages she would get would be ——

The Hon. Mr. COOK: 15d. or 18d. a word reduction on messages. What does it cost you now to get to London?

The

The Hon. Dr. COCKBURN: I think it is 4s. 9d.

The Hon. Mr. COOK: Is it nothing to get through possibly for 3s. 2d.? You are seeing no advantages at all. I am trying to show that a 3s. 2d. instead of a 4s. 9d. rate would be worth while.

The Hon. Dr. COCKBURN: Of course, our telegrams would still go the other way—it is shorter.

The Hon. Mr. COOK: Would they? And you would pay 4s. 9d. in preference to 3s. 2d.?

The Hon. Mr. DUFFY: What do you say, Mr. Reeves, would your Government agree to come in on equal terms with the other three Colonies?

The Hon. Mr. REEVES: I scarcely feel warranted in speaking in their name on the question to-day. I thought it only right to explain my position. There is no desire on my part to hang back. I recognise that if this is to be gone into, it must be in a fairly broad spirit. Might I suggest that we meet to-morrow morning, and it be postponed till then. I could cable to Mr. Ward now. I understand that the proposal of the three contributing Colonies is that the four contracting Colonies come in on an equal footing, equal responsibility?

The Hon. Mr. DUFFY: There is another little subsidiary point as to the local land charges; we must come to some equitable arrangement—it does not effect New Zealand, I suppose?

The Hon. Mr. THYNNE proposed that there should be fixed the same charge to Brisbane as to Melbourne, say 2d. or 3d. a word; let all the Colonies pay alike, pool the amount, and divide it, that is a fair way of doing it.

The Hon. Mr. COOK: Yes, that is fair.

The Hon. Dr. COCKBURN: Of course, the position of South Australia is well known and recognised in this matter. At all former Conferences, South Australia has abstained from taking part in or voting on the question of the Pacific cable; on the other hand she has no desire or intention of departing from the traditions that have always guided her, and she will continue to do her utmost in the interests of international telegraphy, and she looks to the friendly feeling of the neighbouring Colonies that her services in the past will not be made the cause of her suffering unduly in the future. Of course, the facts of the construction of the transcontinental line are well known. It was constructed in 1872 by South Australia, at a time when there was no prospect whatever of the revenue meeting expenditure. I suppose but for that step on her part, for the enterprise she then showed, telegraphic communication would have been delayed many years. She constructed the line, worked it at great expense, and for many years at great loss, and she has reason, from the expressions of friendliness which have always been given by delegates at previous Conferences, to believe that she will not appeal in vain to the sense of justice and kindly feeling of her neighbours. Should this line be constructed, she expects that she will not be left with an unprofitable line on her hands. Of course she feels that to put her interests forward in any way to oppose or prevent the extension of telegraphic communication would be unworthy; she has no intention of doing that; on the contrary, she would like to assist. Of course, whether she could do so or not would entirely depend on the attitude of her neighbours. She has been given reason to believe that other Colonies would favourably entertain a proposal, in the event of the Pacific cable being constructed, either to take over the existing transcontinental line as a federal undertaking, or to give her some guarantee that the revenue derived from her present line would not be unduly destroyed by the Pacific line. Either of these results would be satisfactory to South Australia. The question of South Australia contributing has not been discussed hitherto, and we have always been looked upon as exempt, but we would prefer—I believe my colleagues would—that we should take portion in this undertaking; but this is a new phase of the question.

The Hon. Mr. THYNNE: The way in which we look at the question is this: Assuming that the Pacific cable is actually accomplished (and will be within the next three or four years), it will be to our interest in Queensland—and the same with New South Wales and Victoria, and, I hope, New Zealand—to have an alternative route by the eastern line available for us; and for that reason I think that those Colonies, under the circumstances, would be doing right to make such provision as will keep the way open for connection with the eastern cables. What the extent or amount of the charge which the other Colonies would be expected to bear is a matter we are not able to discuss at present. I think that the interest we have is sufficient to justify us in coming to an equitable arrangement. Mr. Playford, at the Ottawa Conference, stated the position of South Australia practically in the same words as Dr. Cockburn has. We should like to see South Australia come in as a contributing Colony with New Zealand and ourselves, even though it may be on a lower basis of contribution than we should pay. Some fair allowance should be made for the advantages derived from the existence of the South Australian overland line. At our first meeting I proposed that the four contracting Colonies should settle all questions of local or conflicting interest between themselves, and then approach South Australia and say: "We have arranged for this cable, on what terms will you come in with us?" as a preliminary. It may still be necessary that this be done before we can come to a definite arrangement.

The Hon. Mr. COOK: The guarantee to South Australia is purely a contingent one.

The Hon. Mr. REEVES: I should be prepared, Sir, I think, to go this far: that, recognising the services of South Australia, and how desirable it is that they should come in, the South Australian Government be invited to make, as it were, an offer what they think they ought to get to come in.

The Hon. Mr. COOK: I think that offer is now made in a formal way by Dr. Cockburn.

The Hon. Mr. REEVES: He said it had not been properly considered by his Cabinet—it has not been discussed by our Cabinet either.

The Hon. Mr. COOK: It has always been considered that Mr. Ward would be favourable to this view.

The Hon. Dr. COCKBURN: The attitude of South Australia was not only discussed at the New Zealand Conference, but it was distinctly understood in Committee, that in the event of the Pacific cable being constructed, one of two things should be done—either the line should be taken over, or a guarantee given to South Australia.

The Hon. Mr. THYNNE: Surely your Colony would not be prepared to hand over the line?

The Hon. Dr. COCKBURN: No; we might be a federated Australia.

The Hon. Mr. REEVES: I think the guarantee would be the better form.

Some conversation took place as to what had been said at the New Zealand Conference, the Hon. Dr. Cockburn having confidence that such an understanding had been expressed.

The Hon. Mr. COOK: We might leave the matter where it is for the present. Dr. Cockburn could consult with his Premier.

The

The Hon. Dr. COCKBURN thought he could hardly do so in so short a time.

The Hon. Mr. THYNNE thought some provision should be made that no landing-place be afforded by any of the Colonies to any foreign or competing undertaking.

The Hon. Mr. COOK: That is already provided.

The Hon. Mr. DUFFY: There is one little matter—if we construct the cable, will it be necessary to state that in our opinion it ought to be under Imperial guarantee?

The Hon. Mr. COOK: I do not think there can be any question as to that.

The Hon. Dr. COCKBURN suggested that it would help to get at the object in view if the Conference placed on record its views as to his Colony's attitude.

The Hon. Mr. COOK: Supposing we say that it is desirable that South Australia should come in, and (you, representing her here, having expressed the desirability of joining) ask you to state your proposition on behalf of your Government, as to the terms on which you would be prepared to come in?

The Hon. Dr. COCKBURN: Supposing you put it, "It is the desire of this Conference that South Australia should co-operate with the Colonies in obtaining this cable; and that, in the opinion of this Conference, in the event of the Pacific cable being constructed, either the Port Darwin line should be taken over, or"——

The Hon. Mr. DUFFY: Do you mean constructed by the four contracting Colonies?

The Hon. Dr. COCKBURN was not in favour of each Colony bearing the same amount of cost. In all co-operative work, he thought, the contributions should be on the basis of population.

The Hon. Mr. COOK: You see how you will hit us. Our inequality of population makes us take an entirely different view. We say we are outsiders, practically speaking, in this matter. We think a fair thing would be to let us off at least with an equal payment.

The Hon. Dr. COCKBURN: It would prejudice our chance of coming in very much——

The Hon. Mr. DUFFY: You certainly should come in on equal terms; you get greater consideration than any of the Colonies. Others would say, "We get nothing at all, and here is South Australia getting all this consideration."

The Hon. Dr. COCKBURN: No Colony is in the same position as South Australia; no Colony has had the same loss. Expecting us to come in equally is tantamount to saying that South Australia should not look for any consideration or generosity at all.

The Hon. Mr. DUFFY: Well, the reciprocity should not be all on one side.

The Hon. Mr. COOK: If you take up the attitude of stopping outside, our obligation to you ceases that moment. If you are not coming in, there is no obligation regarding your line.

The Hon. Dr. COCKBURN: I do not think that.

The Hon. Mr. COOK: I think so.

The Hon. Dr. COCKBURN: We did not construct the line specially for the benefit of our own Colony; all mutually profited by it.

The Hon. Mr. COOK: I don't think you had an idea outside.

The Hon. Dr. COCKBURN: But there are such ideas.

The Hon. Mr. THYNNE: Do you know what the history really is? There was an arrangement made to carry a line across to the Gulf of Carpentaria from the East Coast of Queensland to meet the Eastern Company's cables. The Company's representatives were intercepted at Adelaide, where the Government induced them to alter their scheme by laying the cable to Port Darwin, which was to be connected with Adelaide by the South Australian overland line. The Company thereupon broke their bargain with Queensland. Queensland constructed its own line right across to Normanton at very great expense, and South Australia thought it was doing a good thing for itself. They induced the Company to break their contract with us, and took upon themselves, the burden of this overland line. That is the history.

The Hon. Dr. COCKBURN: These secret histories are all very interesting, but one does not know how much there is in them. I have not heard that one before. Quite apart from that, stands the fact that South Australia has for twenty-four years had this work constructed and carried on, and it has been recognised that it is of intercolonial importance and that South Australia is entitled to the goodwill, and something more, of her neighbours on account of her enterprise. At previous interchanges of opinion between the Colonies it was recognised on all hands that South Australia would not be expected to contribute.

The Hon. Mr. COOK: One thing should be set against another. It is recognised that your isolated position has perhaps justified you in standing out—therefore no proposal to stand in with South Australia or anything of the kind has ever been made.

The Hon. Dr. COCKBURN: In New Zealand, and in the debates there, it has been stated by the other Colonies that in the event of the Pacific cable being constructed, South Australia could not be expected to contribute. Still, although that was the understanding, it was freely expressed in Committee that in the event of the cable being laid, the other Colonies would either compensate South Australia for the construction of her transcontinental line, or guarantee that her receipts would not be materially diminished.

The Hon. Mr. COOK doubted it; if in committee, it was not reported. But you will find that the statement that South Australia could not be expected to contribute *was* reported.

The Hon. Mr. THYNNE: The other colonies had to look to the future, and all they should ask South Australia to do was to keep the land line open to them as an alternative route.

The Hon. Mr. COOK: On condition they join us.

The Hon. Dr. COCKBURN: You will make it easier if you do not absolutely make that condition. We have to consider the attitude of the people of South Australia in this matter. If a resolution were carried such as I have indicated, it would go a long way towards causing the people of South Australia to view this project more favourably than they have hitherto done, and I have very little doubt that South Australia would contribute. It would come to just the same thing.

The Hon. Mr. COOK: I think in the discussion of these matters it would be better not to go into a strict analysis of rights on either side.

The Hon. Dr. COCKBURN continued he would suggest that the resolution be passed in the form he had indicated, and he would say that under the circumstances he would do his utmost to persuade his Colony to contribute towards the construction of the line.

At this point the Hon. Dr. COCKBURN found the passage in the New Zealand Conference Report which he had been looking for, which he passed on to the President to read, and conversation took place as to how far any expression had been given in Committee to the opinion that, in the event of the Pacific cable being constructed, South Australia should be compensated. The

The Hon. Mr. COOK: Since there is no record of it, I think we had better take the case on its merits.

The Hon. Dr. COCKBURN: I only raised the point because Mr. Reeves was speculating on the views of Mr. Ward.

The Hon. Mr. COOK then drafted the following resolution:—

"That, in the opinion of this Conference, it is highly desirable that South Australia join the other colonies in the Pacific cable project, and, having regard to their vested interests in the transcontinental line, Dr. Cockburn be invited to make a proposition on behalf of his Government embodying the terms on which they will be prepared to join the other colonies in the Pacific cable."

The resolution was put, when

The Hon. Mr. REEVES said: I should prefer "the South Australian Government be invited to state the terms." I think it should come from the Government.

The Hon. Dr. COCKBURN: How would it do to have a general resolution of this kind:—

"In the event of the Pacific cable being constructed, and South Australia becoming one"—[Mr. DUFFY interpolated something]—"that the Conference agrees either to take over the line or give a guarantee."?

The Hon. Mr. REEVES said the resolution should be a definite one. It is a subject of considerable importance to the various Governments, and before they can make up their minds they must have details which we have not got.

The Hon. Mr. COOK: If Dr. Cockburn made a proposition we would not come to any definite decision with regard to details, but only lay down an equitable principle in proper language.

The Hon. Mr. REEVES: There is this difficulty in taking the general principle: when once you get into any kind of details, such as taking over the line or giving a guarantee of revenue, though they are broad and simple ones, they take you away from the general principle. It would be a question whether my Government could go into that without more information before it. We should want to know what we are called upon to guarantee.

The Hon. Mr. DUFFY: We ask Dr. Cockburn to make a proposition. Then we should get further details, particulars of expenses, &c., and then give an answer.

The Hon. Dr. COCKBURN: If the resolution is carried in that form, it will make my task in persuading the Colony to join in more difficult.

The Hon. Mr. COOK: Asking you to name your own terms make it more difficult?

The Hon. Dr. COCKBURN: Yes; it would look as if the Colonies are not occupying as friendly an attitude as our people anticipated. South Australia has always been under the impression that the other Colonies would, quite apart from her joining in this cable, consider her position, and, in the event of the Pacific cable being constructed, would guarantee her against loss. We have always been under the impression that the other Colonies would do that unconditionally. If not, and they would only do it as part of a condition, it would make it much more difficult for me to put it before them. Did not Lord Jersey say something in his Ottawa Report? Give me a few moments to look it up. (Pause.) Mr. Playford says if the cable is to be subsidised our position is to be taken into consideration. He was not going to stand in the way.

The Hon. Mr. COOK: That is precisely the proposition we are making now, in other words. Mr. Playford said he would not stand in the way if the peculiar circumstances of his Colony were taken into consideration. We say now, "come in with us and we will stand in with you."

The Hon. Mr. THYNNE: The making good any loss consequent on the construction of the new cable was what Mr. Playford meant, as I think he was generally understood. If there is any falling-off by reason of the new cable, South Australia should be assisted in some way if she comes in.

The Hon. Dr. COCKBURN: As I stated, South Australia is desirous to come in, though it was formerly understood that she would not be expected to contribute; at the same time, I desire to have some earnest that her position would be considered, and it would be easier for me to get consent to contribute if a proposition were made in the direction that the Colonies would be willing to make this concession to South Australia. Only I prefer that that proposition should come first and my statement afterwards.

The Hon. Mr. COOK: We say here, we want you in and ask you to state your terms.

The Hon. Dr. COCKBURN: Well, then, is the Conference willing that an opinion should be expressed that in the event of South Australia coming in, the guarantee would be given?

The Hon. Mr. DUFFY: We are willing enough to give it if it means, in a business point of view, a reasonable thing. It is not a question of making anything out of the transaction, but of not losing too much, for the present condition of our finances will not allow it. If it is shown to be likely to amount to a reasonable sum, I would have no hesitation in recommending my Government to do it.

The Hon. Mr. COOK: Let me understand you. I would not ask our Treasurer to pay this amount irrespective of the other project. Whatever is paid here will be part of the project.

The Hon. Mr. DUFFY: We will lose *something*, certainly. (Long pause.)

The Hon. Mr. COOK: I think if we pass this and telegraph it over——

The Hon. Dr. COCKBURN could not see any good object to be gained.

The Hon. Mr. COOK: We make no stipulation.

The Hon. Dr. COCKBURN: It means this, an outsider would say: "the idea that South Australia has always had with regard to the attitude of the other Colonies towards her transcontinental line is a myth;" that they are only prepared to consider her interests if advantageous terms can be made for the future. That is the way I should read it.

The Hon. Mr. COOK quoting: "Having regard to their vested interests in the transcontinental line." Can that be interpreted in that way?

The Hon. Mr. REEVES: I do not feel inclined to force (using the word only in an amiable sense) Dr. Cockburn's decision by repeated argument or hurrying at this moment. It seems to me absolutely inevitable that South Australia must come in, and it will be to her advantage. If her representative feels doubtful on the point, I do not feel disposed to urge it.

The Hon. Dr. COCKBURN: I have already stated that South Australia desires to come in.

The Hon. Mr. COOK: Then where is the trouble?

The Hon. Mr. REEVES: Of course it must be a question of terms.

The Hon. Mr. Cook: It looks like this—is not this Dr. Cockburn's attitude—supposing his Government decline to come in, he wants an expression of opinion that we are still prepared to give South Australia something?

The Hon. Dr. Cockburn: No; because I said if the resolution is carried I would pledge myself so far as possible, that is, my Government, to come in.

The Hon. Mr. Cook: I am strongly of opinion that if the matter goes over, and the other four colonies go into the project, it would be very difficult for you to come in afterwards.

The Hon. Dr. Cockburn: If it is carried, what is your intention?

The Hon. Mr. Cook: It is expressing our wish that you should come in.

The Hon. Dr. Cockburn: On this being carried, I say that the condition on which South Australia would come in would be that her hopes in the past as regards the attitudes of the other Colonies would be realised; that is, they agree either to guarantee——

The Hon. Mr. Cook: You see the position; you have something to part with; surely you can say what you value it at. Until we know what your idea is about it it is useless for us to make a proposition.

The Hon. Dr. Cockburn: When will this proposition be made?

The Hon. Mr. Cook: I candidly confess I do not think it ought to take many hours to fix a broad proposition, which would serve as a basis for discussion. (Long pause.)

The Hon. Dr. Cockburn: Well, would this be an acceptable proposition—that a guarantee should be given to South Australia that when the Pacific line is constructed, her receipts from her line would not be allowed to fall below the average (say) of the last five years?

The Hon. Mr. Duffy: We would like to know what that is: we could not bind our Governments without.

The Hon. Dr. Cockburn: Yet you are asking me to bind mine. (No, no.) You can never know when you give a guarantee what you are pledging the Colony to; you don't know whether there will be a loss, or how much.

The Hon. Mr. Cook: Supposing you have——You have been making at least 5 per cent. on your line——.

The Hon. Dr. Cockburn: The returns this year have certainly been better.

The Hon. Mr. Cook: You are making between 5 and 6 per cent.——

The Hon. Dr. Cockburn: No; there have been only two years when there has not been a dead loss.

The Hon. Mr. Cook: Oh yes, I say you are. Can you expect us, if that line has reached paying point, and there is a prospect of its continuing to pay 5 per cent., to guarantee that percentage if we can get money at 3 per cent. Would not the point of equity be reached if you had a guarantee of current interest?

The Hon. Mr. Thynne: I think at the present time that is more than any of the Colonies would be prepared to do on the outlay. It could not possibly be considered worth anything like that.

The Hon. Mr. Cook: I am speaking of the valuation, whatever that may be——

The Hon. Mr. Thynne: I think his suggestion was, that the revenue has been so much during the last five years—would we guarantee to South Australia that she shall lose nothing of that traffic? That is, guarantee that her revenue shall not be reduced.

The Hon. Mr. Cook: I say it would not be fair to guarantee that return. With less business the expenses would be less also. If present revenue were guaranteed and the expenses decreased, a handsome profit would result. That would not be fair. We only want to prevent a greater actual loss.

The Hon. Dr. Cockburn: There have been two years in which there has not been an absolute loss, taking interest and working expenses into account—this year, and another year some time back.

The Hon. Mr. Cook: Averaging the years, you want to be guaranteed against loss; that point is reached when you get current interest.

The Hon. Dr. Cockburn: Current interest would hardly do; we should want interest and working expenses.

The Hon. Mr. Cook: I am speaking of the net returns; the interest on the loan should be guaranteed.

The Hon. Mr. Duffy: And working expenses.

The Hon. Mr. Cook: What do you mean by the two years' return. Gross monetary return?

The Hon. Dr. Cockburn: I say that, except for two years, taking the interest on the line and working expenses as our expenditure, and the revenue from the line as our receipts, in every case the expenditure and interest have exceeded the receipts of the line.

The Hon. Mr. Cook: And now the return is 5½ per cent.?

The Hon. Dr. Cockburn: For this year only. We only ask for a guarantee of the average for five years, which would not give that return. I throw in three lean years and two fat years. We don't want to make a loss.

The Hon. Mr. Thynne: The cable traffic at the present time all goes over this line, it is the only business our cable would affect, and some assurance is wanted that the amount of her receipts from this cable traffic shall not be reduced.

The Hon. Mr. Cook: No, that is what I say would not be a fair basis. Supposing a certain amount of business is now done: in future expenses will be very much reduced, and if they are making 5 per cent. now and the present receipts are guaranteed, it might mean 7 or 8 per cent. on the undertaking. All they want guaranteed is that they will not lose. That is reached when the working expenses are paid, depreciation accounted for, and interest provided. To calculate on the same receipts as now would be absolutely unfair: that would put their profit up considerably.

The Hon. Mr. Thynne: I don't propose they should always be guaranteed the same general receipts. We should have to find out their cable traffic and calculate on that.

The Hon. Mr. Cook: It seems to me it is a simple matter. Pay the expenses of working the line, and pay current interest on it.

The Hon. Dr. Cockburn: Last year, our revenue was £43,926; working expenses, £18,280; annual interest on loans, £24,703; making a total of £42,983. Showing a gain, but in other years (which Dr. Cockburn gave) there had been losses in some cases up to £12,000 and £14,000.

The Hon. Mr. Duffy: What interest do you pay? It must be very high.

The Hon. Mr. Reeves calculated it must be more than 4½ or 4¾ per cent.

The Hon. Mr. Cook: It would be better to take it over and get the money at 2½ per cent.

Some-

Some conversation ensued which it was impossible to catch, Dr. Cockburn referring to some papers mentioned the sum of £332,000—"exclusive of guarantee"—"in round figures, £32,940"—&c. Mr. Cook asked something concerning a guarantee. Mr. Reeves asked the total loss on the last five years, &c.

The Hon. Dr. COCKBURN continued: Well now, is this proposition intended to stand as "Dr. Cockburn," or "the South Australian Government": and what terms do you expect me to state? I have already suggested that you guarantee us on something like our present basis for the last five years. I think that is a fair thing. We want to feel assured that the Pacific cable will not land us in a bigger loss than the average loss for the last five years.

The Hon. Mr. COOK: With the option of taking it over?

The Hon. Dr. COCKBURN: I would like to consult my colleagues before saying that. It is a big question, and I would not like to say that right out. You see, it is a question of policy, as a portion of the line belongs to our local telegraph system, and it might lead to complications.

The Hon. Mr. COOK: Can you tell us how much of it belongs to your telegraph system? *You* may consider your proposition in regard to this line a very handsome one; here is part of it, the main trunk of your telegraph system, and you are proposing to add to it the cable receipts of other colonies.

The Hon. Dr. COCKBURN: Yes, but there is very small local traffic.

The Hon. Mr. COOK: It would have to be there if there were not the cable line to carry the traffic.

The Hon. Dr. COCKBURN: But not maintained on anything like its present scale.

The Hon. Mr. COOK: It was constructed originally to open up your country?

The Hon. Dr. COCKBURN: I hardly think the Northern Territory existed in name twenty-four years ago—at any rate, there was little settlement there.

The Hon. Mr. COOK: Well, gentlemen, what do you say?

The Hon. Mr. DUFFY: Where are we exactly? Suppose we do not do anything until Dr. Cockburn gives us in the morning a formal statement what he is prepared to do?

The Hon. Mr. REEVES: I feel the position of New Zealand a little difficult. Of course, I am perfectly prepared to go as far as voting for a general resolution that an equitable concession be granted to South Australia. I think she is entitled to it; but if we are to go and pin ourselves to specific details here, and recommend our Governments (Mr. COOK: "*That* pins us."), and if there is to be a reservation as to the terms on which South Australia comes in (and we have an intimation from her delegate that she is not likely to come in on equal terms, even after we have made this proposition), then the question must be seriously considered. I have no objection to vote for the general resolution, that some equitable concession should be given. But at the present stage, I am not prepared to say how much further I will go after what we have heard.

The Hon. Dr. COCKBURN: Has the question of the basis of contribution been discussed before? You must acknowledge it is a new departure.

The Hon. Mr. COOK: It is that point of it which is the inducement to us to turn to you.

The Hon. Mr. DUFFY: Of course, if it is going to be a success, it does not matter.

The Hon. Mr. COOK: Read the resolution,—

> "That in the opinion of this Conference it is highly desirable that South Australia join the other Colonies in the Pacific cable project, and having regard to their vested interests in the transcontinental line, Dr. Cockburn be invited to make a proposition embodying the terms on which the South Australian Government would be prepared to join the other Colonies in the said project."

The Hon. Mr. REEVES: I am prepared to support that. Messrs. Thynne and Duffy voted, "aye." Dr. Cockburn did not vote. The resolution was *carried*.

On the question of proceeding with further business, Mr. REEVES said the question of appointment of delegates might lead to some lengthy discussion, and after an opinion had been given against any information being supplied to the Press, the Conference adjourned at 6·15 p.m.

SATURDAY, 18 *JANUARY*, 1896.

The Hon. Mr. Cook took the chair at 10 a.m. On the minutes being read by the Secretary,—

The Hon. Mr. DUFFY said: Do we want that telegram in the minutes from Sir John Forrest?

The Hon. Dr. COCKBURN: I seconded the resolution with regard to the route, but then, and on other occasions, I expressed the opinion that when you are appointing the Commissioners it was not desirable to tie their hands. I should like that entered also.

The Hon. Mr. DUFFY: You seconded it as a matter of courtesy.

The Hon. Mr. COOK: Put my name to it instead; it is my suggestion. (The delegates agreed to the alteration.)

The Hon. Dr. COCKBURN: And is this not a little stronger than you intended? (Understood to refer to the route.) It was understood we made suggestions: these are rather directions.

The Hon. Mr. DUFFY: I understood the whole thing was only an expression of opinion.

The Hon. Dr. COCKBURN: Still it ties down the representatives.

The Hon. Mr. THYNNE: This will be a record; it is only "in the opinion of the Conference." I suggest that we add these words to each one.

The Hon. Mr. COOK: It is only an expression of our opinion.

The Hon. Dr. COCKBURN: Yes, with the information we have at hand; but the Commission will have much further information, later and more complete.

The Hon. Mr. THYNNE: We want the Commission in England to have the ground clear from all conflicting local interests. We ought to settle our differences here as far as possible, leaving the Commission to understand that these are the compromises the Colonies make between themselves.

The Hon. Mr. COOK: There is plenty for the Commission to do in adjusting international differences.

The Hon. Mr. DUFFY: These are only suggestions that embody our ideas up to date: we do not bind them down at all.

The Hon. Mr. THYNNE: We are in a different position from Canada and Great Britain, who can each say to their representatives, "These are our views;" but we are a number of different Governments meeting together with a view to coming to an understanding.

The Hon. Mr. COOK: I thought we discussed that before.

The Hon. Dr. COCKBURN: All right.

The PRESIDENT indicated that they had adjourned the previous day on the understanding that Dr. Cockburn would submit an offer from his Government *re* joining in the cable. The

The Hon. Dr. COCKBURN: I am prepared to say that South Australia will be willing to join in the undertaking or project provided that she is guaranteed either from the Colonies interested alone, or jointly with the Imperial Government, that she will not be placed in a worse position by the rival route.

The Hon. Mr. DUFFY: Will you formulate that in writing?

The Hon. Mr. COOK: I see difficulties in the way of saying that the receipts will be maintained on the basis of the last five years; if half the business is taken away, the working expenses will not be the same.

The Hon. Dr. COCKBURN read the statement which he had put in writing, and which appears in the minutes:—

> South Australia is willing to join in the project provided that a guarantee, either from the contributing Colonies alone, or jointly with the Imperial Government, be given, that the financial position of South Australia as regards the Port Darwin line be maintained on the basis of the average of the last five years.

That will provide that if there is any falling off in the working expenses, that will be taken into account. We do not want to be placed in a better position; it never struck me that it could be open to that interpretation.

The Hon. Mr. COOK: I have drafted a resolution on the offer of Dr. Cockburn:—

> In consideration of South Australia joining equally with the others in the Pacific cable project, they will be prepared with other countries interested, namely, Great Britain and Canada, to guarantee that Colony against actual loss in connection with their transcontinental line.

The Hon. Dr. COCKBURN: You cannot expect Canada to contribute.

The Hon. Mr. DUFFY: Great Britain.

The Hon. Mr. THYNNE: My idea is that we ought to keep that as a local matter.

The Hon. Mr. COOK: I do not think so. I do not think the Imperial Government will make any bones about it at all, nor will Canada.

The Hon. Mr. REEVES: I do not think I would suggest putting in Canada; if there were any question, for example, of Canada having a line with Europe on which there might be a loss, we should certainly object to guarantee anything there, and the position is rather similar. I think the Imperial Government should help, though I do not know whether it will. I understand they have expressed some opinion that they would not be prepared to join in any schemes of compensation.

The Hon. Mr. COOK: I do not think Canada would make the slightest demur. It would be a matter of deliberation between the three countries. I do not see that we should do any harm in asking for it.

The Hon. Mr. DUFFY: Leave out Canada, as that seems to be the opinion of the delegates.

The Hon. Mr. COOK: Very well; I think you are making a mistake. I think Canada would join us more readily than you think; in fact, I am sure she would. Well, I am prepared to move that.

The Hon. Dr. COCKBURN: None of us want to make things appear other than they are. Of course, I am here representing South Australia, and I speak with all the force that a representative can—but not with more force than that—and, I think, this motion, No. 5 of yesterday, would make it appear more than that. I think it better to say "the representative of South Australia be invited to make a proposition embodying the terms on which South Australia would join." I think that makes it appear that I bind myself and my reputation; but that is all I can do. I cannot give occasion for a law-suit. It makes it appear a little more than it really is. The general opinion was that South Australia should be indemnified against further loss; it never meant against loss in the past; I do not want to strain that to my own advantage. Why go away from the present basis in giving the guarantee? Of course, this is an exceptional year; last year there was a big loss.

The Hon. Mr. REEVES: There will be a loss of £8,000 or £9,000 a year when the other cable is constructed, possibly £12,000 a year. It may possibly be £2,000 a year for each of the Colonies.

The Hon. Dr. COCKBURN: Let us place our difficulties before one another. I think we had better have a discussion on this question of equal subsidies. I see a great difficulty. Let the Colonies primarily interested in this cable make any arrangement they like; but to lay down as a principle, touching the contributing Colonies generally, that subsidies are to be equal, and not proportionate to population, is a departure from every understanding that has hitherto obtained in the way of jointly bearing cost, and it appears to me will stand very much in the way of all future federal undertakings.

The Hon. Mr. DUFFY: This is not a guarantee.

The Hon. Dr. COCKBURN: It is practically the same thing as entering into any joint undertaking, and what is the index of the capacity of any Colony in bearing any burden, whether guarantee, or subsidy? It is its population, and all our arrangements have been on that basis; and it would be a very dangerous thing, and prejudicial to any further undertakings, if, when any federal action is mooted, you start with a discussion whether the contribution is to be per Colony or per head of population. The Federal Council contribution was based on the same understanding, and, in the matter of the subsidy to the Australian Squadron, it went without saying that contributions should be on the basis of population.

The Hon. Mr. COOK: May I remind you that you always argued in an exactly contrary way at federal conferences? You are now arguing for unification. Ours is the truly federal proposition.

The Hon. Mr. DUFFY: Do you pay the Imperial Government and Canada on the same population basis?

The Hon. Dr. COCKBURN: I am talking of what has been done in the past, and is likely to be done in the future.

The Hon. Mr. COOK: I have no hesitation in saying that South and Western Australia, when this cable is constructed, will derive a great deal of benefit from it, because, for the first time, the gold-fields of Western Australia will be put into direct and cheap connection with America.

The Hon. Dr. COCKBURN: That is a statement; I wish I could see it in that light. However, we are not arguing that point. I am simply arguing that this idea of contributing on a population basis has hitherto been always recognised and understood, and any departure from it will stand in the road of federal undertakings in future. It is easy to see that if an example is once set the question will always be raised, on what principle are the Colonies coming into partnership—as Colonies, or on the number of population?

The Hon. Mr. COOK: It is a point we often do raise, and have to go under. Witness the Federal Senate. Besides, it could be quoted against South Australia that the other Colonies have been specially generous to her.

The Hon. Dr. COCKBURN: Well, it appears to me that this raises difficulties which will be found to be great impediments in the future, and surely the idea is not that by laying a new cable the concert of Australia in telegraphic affairs is to be destroyed. I presume the Pacific cable will be looked to as serving jointly the interests of all Australasia, and that all the Colonies would like to have a share, but if it is understood that Tasmania, for example, was to join equally with the other Colonies, you set down a principle which at once and for ever debars her taking any possible part in such an undertaking. And I do not think this should be done.

The Hon. Mr. COOK: I tell you what; we will leave out this question of the transcontinental line—that is your own affair. Let us start free of it, and then we might agree to the population basis.

The Hon. Dr. COCKBURN: My argument is that in all these matters Australia should be one—not divided in interest. Then, is it not a mistake to lay down a principle which for ever precludes the possibility of their being one? Our case is a special one, but that does not entitle us to less consideration.

The Hon. Mr. COOK: It does not govern future action at all, if it is to be a special one.

The Hon. Dr. COCKBURN: I am not talking on behalf merely of South Australia, but of all the other Colonies.

The Hon. Mr. COOK: If it is a special matter it does not govern future action at all.

The Hon. Dr. COCKBURN: But it is a precedent as to the manner in which other Colonies are to join in action.

The Hon. Mr. REEVES: I think it is *apropos* of this that I ought to tell the Conference of a communication I got from my Government this morning. I cabled to Mr. Ward yesterday, as I said I would, with regard to the terms on which New Zealand could come in as a contributing Colony. He replies that of course it would be very disadvantageous to us to come in on an equally responsible footing with the other three Colonies; at the same time he would be prepared to give way, and do so, annexing, however, the stipulation that Victoria and New South Wales should join with us in facing any possible loss on the present cable.

The Hon. Mr. DUFFY: Thank you.

The Hon. Mr. COOK: It would not take us—me at any rate—very long to decide that matter.

The Hon. Dr. COCKBURN: You are making tremendous difficulties.

The Hon. Mr. DUFFY: There is no chance of Victoria coming in at all, unless on an equally responsible basis. (Long pause.)

The Hon. Mr. COOK: Well, that raises the whole question again.

The Hon. Dr. COCKBURN: It is the largest question that has ever been raised in any federal undertaking.

The Hon. Mr. REEVES: I did not know what communications passed between the three gentlemen, or any representative of theirs, who met in Sydney and our Government in regard to this Conference, but when I left, Mr. Ward did not think this would come up, so he naturally sent me here without any information on the point. He told me distinctly the Conference was going to discuss two points: the cable route and the appointment of delegates. I came really expecting that the Conference would address itself to these two points, not on this contribution matter. I wired last night to Mr. Ward. That is how the matter stands.

The Hon. Mr. COOK: We stand in this position. Both Victoria and New South Wales came into this project, not because there was any intense feeling throughout the community that we ought to, or to gain any pressing commercial advantages. In that respect we are different from both Queensland and New Zealand. We came in without stipulation or reservation of any kind, and I do not see that the Colonies more directly interested should raise all these objections, trying to saddle the two older Colonies who are coming in purely on federal lines, for international purposes, with unequal responsibilities. I think we ought to meet fairly.

The Hon. Mr. DUFFY: My Government will have the same difficulty in this matter. We do not care two straws whether the cable is constructed or not, we come into it with a patriotic sentiment and a federal idea. It may benefit the whole of Australia, but we have a very fair cable service at present, efficiently conducted and not much too dear. Nevertheless, we are willing to come into this project on a fair basis, that is an equal one. Dr. Cockburn mentions Tasmania—well, it might fairly be made an exception, it is a little place outside Australia altogether, its telegrams are of little value—a few hundreds of pounds—so I think we might make it a negligible quantity altogether. But as far as the grown-up Colonies are concerned, it should be a *sine qua non* that they should enter on equal terms. We are entering on a large commercial and industrial undertaking, which we hope will be a success. We do not speak to Great Britain and Canada about a population basis, but of equal shares. I think we might fairly say, as Queensland has generously waived any claim to the idea of a population basis, and has offered to take her fair burden the same as the other Colonies, that South Australia should take the same view. I never dreamed New Zealand would want anything else; we are making her special concessions on account of her geographical position, but we never dreamed she would hesitate about coming in on equal terms. Dr. Cockburn's position is difficult, but I hope, as we are meeting here to deal with the matter fairly, and let us say generously, that he will see his way to see with us in the matter. It should not, and need not, form a precedent. (Dr. COCKBURN: That is always said, "it will not form a precedent.") Victoria has had little consideration in the past, and I think we are entitled in these days to a little fair play. Let some of the other Colonies help us a little bit.

The Hon. Dr. COCKBURN: I do not want the impression to gain either here or anywhere else that any difficulties are being raised by me, or any attempt being made to saddle the larger Colonies with anything unforeseen. It appears to me that it is the other way, this is something altogether new: it is not raised by South Australia or New Zealand, but by others, and it is altogether new to us, and it must be confessed that nothing of this sort has ever been mentioned directly or indirectly at any previous conferences, on this subject. I do not know whether it was mentioned, or even hinted at, in Canada.

The Hon. Mr. THYNNE: I do not think any discussion ever took place between the representatives of the Colonies as to any question of proportion. Perhaps Dr. Cockburn will allow me to say that this matter has come up in one or two different forms. In the first place, my Premier, Mr. Nelson, after thoroughly investigating all the information he could get about the Pacific cable, went so far as to advise his own Parliament that if the other Colonies did not co-operate, to take the responsibility of the whole third. (Dr. COCKBURN: The whole third?) Yes; and when we came to discuss the matter privately with Mr. Duffy and Mr. Cook, I stated on behalf of Queensland that we were prepared to take any reasonable part

of

of the risk which they thought it a fair thing for us to take. Queensland has said it, and I expected New Zealand also would say that they are prepared to take their equal share with the other Colonies, and that is the reason why New South Wales and Victoria have taken up the matter so satisfactorily. If it had not been for that it would probably have been left for New Zealand and Queensland possibly to endeavour to get the cable constructed. Now four of the Colonies have combined to bring this matter before the Imperial Government, and have got a fairly satisfactory reply, and the present stage having been reached it is desirable that the Commissioners to be appointed for the Colonies should represent, if possible, the whole of Australasia. If the western Colonies do not see their way to come into it, the others will have to take their part and wait until those standing out intimate their willingness to co-operate. As to the amount of responsibility, what is it? The most extravagant calculation of the outlay is somewhere about £125,000 a year—principal, interest, and working expenses; of which it is proposed that 40 odd thousand be apportioned to Great Britain, the same to Canada, and the same to Australasia. And what is South Australia's share? The maximum would be £8,000 a year each, out of which come the share of the receipts from the cable. What is there to be afraid of? What is there in that little item for South Australia, Western Australia, and Tasmania to object to?

The Hon. Mr. REEVES: There is this, that I must respect the intimation of opinion from my Postmaster-General. I think it is a little unfortunate that we do not seem to have been prepared in all the Colonies to discuss this question at this Conference. I agree to a large extent with what Mr. Thynne has said, that the prospects of loss, of substantial loss, are comparatively remote. The standard of negotiation must be that of friendly settlement, a little give and take. But the position is, that my Government at this moment does not seem to be prepared to swallow the principle of equal responsibilities without some kind of *quid pro quo*, which Victoria and New South Wales do not seem inclined to grant.

The Hon. Mr. COOK: I do not, I say candidly. We give you the connections, and you take equal responsibilities.

The Hon. Dr. COCKBURN: I am placed in an unfortunate position. This is still more new to me. Like Mr. Reeves, I came here with certain indications as to the matters we were to discuss, but I wish I had known as much as the other Colonies appear to have been in a position to know. You place South Australia, and probably also New Zealand, in a very difficult position in inviting our attendance here to discuss certain questions which have been discussed before on a certain understanding, and then raising a question which has never been discussed publicly before, and it seems to me that it is placing my Colony at a disadvantage

The Hon. Mr. COOK: Allow me to say that, wherever the idea has come from, we have always had an idea that New Zealand would willingly take an equal responsibility in this matter. I cannot say where it has come from, but there has always been that opinion.

The Hon. Dr. COCKBURN: There may have been communications from New Zealand (Mr. REEVES: "No!"), but there have been none from South Australia to that effect. It has always been recognised that the reason that Mr. Playford did not attend that deputation in England was because South Australia did not see that this was a matter necessitating the appointment of a Commission, and that was solely for the appointment of a Commission. I am sorry I have not been placed by my colleagues in possession of information on a question of this sort, which comes so completely new to me. Put yourselves in our position—the matter is not new to you; you have discussed it before, and possibly you cannot understand the difficulty and dilemma in which a person altogether ignorant of what has preceded is placed.

The Hon. Mr. COOK: We make every allowance for you; it is New Zealand we are surprised at. I told my Government repeatedly that the other Colonies respectively were willing to take equal shares in the scheme.

The Hon. Mr. REEVES: You will understand, while I regret that any obstacle should arise, I cannot take up an apologetic position on behalf of my Government, and do not do so, for I am totally unaware that any indication has ever been given by them that they would come in on your basis. I know nothing of the kind.

The Hon. Dr. COCKBURN: We all want to see business done; cannot we leave it open?

The Hon. Mr. THYNNE: If we leave this matter unsettled now, we may as well not do anything at all. If we cannot give some information to our Commissioners on this point, then you shift to London the whole burden of investigation, for one of the functions of that Commission will be the question of the apportionment of cost, and why should we refer to the Commissioners questions we ought to settle among ourselves? It means shunting the thing back here again, to be kicked about like a football, then another debate at a table like this two or three years hence. One of the functions of this Commission will be to prepare a Bill, to pass through all the different Parliaments, giving authority for entering into the liability necessary, and unless we give them our draft instructions, it would mean that the Commissioners in London would have to be continually cabling out to the different Colonies over questions, just in the way, perhaps, that South Australia and New Zealand will have to do now.

The Hon. Mr. REEVES: So the Commissioners will, surely; we are not binding our Governments over this. It will entirely depend upon the extent to which the proceedings of this Conference are ratified by the Governments.

The Hon. Dr. COCKBURN: We want to know more. The act of the Commissioners does not bind the Governments. If we were conversant with all the conditions, and able to take absolutely definite lines, the Commission would be a superfluity.

The Hon. Mr. DUFFY: We must see some *primâ facie* chance of your joining in.

The Hon. Mr. REEVES: I think there is a *primâ facie* chance. If we are not in accord on every point here, it does not mean that we shall never be so. I cannot believe it is impossible for four Governments to settle this question of the basis of contribution. I think they will say it will be possible, rather than see a magnificent project like this ruined. This question takes me absolutely by surprise, and I tell you frankly I had no instructions on it.

The Hon. Dr. COCKBURN: We should make each step such as may form a basis for future operations. Do not despair because the common ground does not embrace everything at once. Let the Colonies who are agreed together express their opinion.

The Hon. Mr. COOK: That simply means waiving all this, then?

The Hon. Dr. COCKBURN: I am talking of that particular point.

The Hon. Mr. COOK: That point is the main point.

The Hon. Dr. COCKBURN: It does not necessarily involve all.

The Hon. Mr. COOK: Yes, it does.

The Hon. Mr. DUFFY: The word "equal" occurs.

The Hon. Dr. COCKBURN: I have come here to discuss and act on behalf of my Government in certain things; but no representative can act in respect of new things altogether. I do not say what the attitude of South Australia will be on this subject, but it is one which ——

The Hon. Mr. COOK: Your case is not the serious one—New Zealand's is the serious one; it is an attitude which I confess I did not expect would be assumed.

The Hon. Mr. REEVES: Well, as I was saying, the coming up of the whole question took me by surprise.

The Hon. Dr. COCKBURN: Why not record that the Colonies of New South Wales, Victoria, and Queensland are of opinion that the contributions should be equal from the various Colonies, and that the delegates of New Zealand and South Australia, not having previously considered the question, did not concur?

The Hon. Mr. REEVES: And we ask that our Governments be allowed a further opportunity of considering?

The Hon. Dr. COCKBURN: We want to consider. We know Victoria is behaving in a very generous manner unquestionably, so is New South Wales—she is more interested than Victoria, but not so much as Queensland.

The Hon. Mr. DUFFY: We do not blame you at all; we blame New Zealand. I understood Mr. Ward agreed to join equally in the project.

The Hon. Dr. COCKBURN: Do not let it appear that Mr. Ward is absolutely hostile to this.

The Hon. Mr. COOK: It is no use talking unless there can be some fair dealing. We come back to the old position, and will have to put in a claim to have the landing place in Sydney; we have almost equal claims with Queensland, but surrender the point to get it settled, and now you ask us to carry you further; we do not think it is fair.

The Hon. Dr. COCKBURN: No; we do not ask that.

The Hon. Mr. REEVES: We ask that my Government be allowed further time to consider; I cannot see why the Conference cannot allow this to go, and leave it for the Governments to negotiate; it is purely a domestic matter.

The Hon. Mr. COOK [*With map.*]: There is New Zealand standing alone; we are taking a special line down to her at a cost of £114,800 on purpose to get New Zealand in, and she wants us to give her further guarantees.

The Hon. Mr. REEVES: Our guarantee would be a pretty heavy one anyhow for our population, and if you left New Zealand out it would not be an Australasian cable.

The Hon. Mr. COOK: No, it would be an Australian one.

The Hon. Mr. REEVES: I did not expect this to be the main business of the Conference. It seems to me it should be a matter of negotiation between the Governments. But it is not necessary to make a dead stop now just because New Zealand will not agree to come in on an equal basis.

The Hon. Mr. DUFFY: It is a curious combination—the Colony least interested and the Colony most interested will not come in.

The Hon. Dr. COCKBURN: You have discussed it before.

The Hon. Mr. COOK: This thing has been thrashed out with Mr. Ward, I understand.

The Hon. Mr. REEVES: I am not aware of that.

The Hon. Mr. COOK: Mr. Ward made a very astute bargain with us before, and he wants to make further good terms.

The Hon. Mr. REEVES: I have read Mr. Ward's speeches very carefully, and I do not see the faintest indication of the equal basis anywhere.

The Hon. Dr. COCKBURN: It has never been expressed or understood in any way whatever.

The Hon. Mr. COOK: Queensland recognises that they are getting some advantage in getting the landing place. I think we had better have a specific resolution on this matter of the contribution part from South Australia—take a vote on it—those who are not prepared to vote, let that be attached to the resolution.

The Hon. Mr. DUFFY moved,—"That the Colonies joining contribute equally to the undertaking."

The Hon. Mr. THYNNE seconded.

The Hon. Mr. COOK: If New Zealand and South Australia do not agree, how shall we put it?

The Hon. Dr. COCKBURN: I do not say we agree or disagree, but as this is a new question, and never been considered by my Government, and a departure from all their recognised modes of undertaking federal affairs, and as it might be a bar to the facility with which they should be undertaken in future, I should like time to further consider it.

The Hon. Mr. COOK: Mr. Reeves has to go to-morrow—if he could stay over till Monday I would prefer postponing it.

The Hon. Mr. REEVES: My steamer leaves Brisbane on Tuesday.

The Hon. Mr. THYNNE: I think you could catch her at some of the ports by staying for the "Wodonga."

The Hon. Mr. REEVES: I do not care to risk it. I shall simply not record my vote against it, so as to leave my Government a free hand, and will communicate the temper of the Conference and the gist of the opinions expressed by the Conference to my Government in writing.

The Hon. Mr. DUFFY: And the record will be that this was moved, and seconded, and carried—the representatives of South Australia and New Zealand refraining from voting pending further instructions.

The Hon. Dr. Cockburn and the Hon. Mr. Reeves appeared to assent to this, without saying anything.

The resolution was carried. Hon. Dr. Cockburn and Hon. Mr. Reeves refraining from voting.

The Hon. Mr. COOK: Now to deal with this resolution:—

> "In consideration of South Australia joining equally with the others in the Pacific Cable project, they will be prepared, with other countries interested, namely, Great Britain and Canada, to guarantee that Colony against actual loss in connection with their transcontinental line."

The Hon. Dr. COCKBURN: With regard to this question of contribution, say "the terms on which South Australia would be prepared to join"—strike out the word "equal," and use the word "join." The resolution is already recorded, then we get common ground; the voting explains the position.

An alteration was made in the wording of the resolution, which was moved by the Hon. Mr. THYNNE and seconded by the Hon. Mr. DUFFY, and put by the Chairman. The

The Hon. Mr. REEVES: I vote for that. Of course I may receive some instructions about it during the morning from my Government, but I take the responsibility meantime of voting for it.

The resolution was carried.

The Hon. Dr. COCKBURN: May I ask—it is not much difference—instead of "on behalf of his Government," put (in yesterday's resolution) that "Dr. Cockburn be invited to make a proposition embodying the terms on which South Australia would be prepared to join the other Colonies." It expresses as much as I can do. I do not want to appear to be doing more. This was agreed to.

The Hon. Mr. COOK: Now, there is the question of delegates—two have been asked for.

The Hon. Dr. COCKBURN: Well, I have instructions from my Government to ask for the appointment of a delegate to represent the position of the Western Colonies, not with a view of influencing the voting, but simply to secure the position of these Colonies being brought before the Commissioners, and I am requested, as you all know, by Sir John Forrest, to press this matter on behalf of Western Australia, which I am prepared to do to the utmost. I also make the same request from Tasmania. The interests of Canada and Great Britain in this matter are homogeneous. They are one Government each. Here we have a number of Governments; and it seems to me that there will be a difficulty in selecting two Commissioners who will be expected to speak from the various points of view of all the parties concerned. I therefore respectfully ask the Conference to take this request into consideration—which I am deputed by South Australia as well as the other two Governments to make—and grant it.

The Hon. Mr. DUFFY: I am afraid it would look awkward if Australia is about to federate and cannot agree upon the appointment of delegates.

The Hon. Mr. COOK: The reason given for the special representation of South Australia is, their special interests—the same would apply to all the others—therefore, I don't think he should press that matter any further under the circumstances. There is no reason for getting a special representative.

The Hon. Dr. COCKBURN: I am very sensible of the manner in which the Colonies have viewed the interests and claims of South Australia, and I am very anxious to see the Conference unanimous. Has any proposal as to representation been made?

The Hon. Mr. COOK: I am glad to say we did talk this matter over, and Mr. Duffy and I are strongly of opinion that since the matter is a federal one, representatives of the two large Colonies should sit on the Commission, stipulating that on all important matters they should consult with all the Agents-General.

The Hon. Dr. COCKBURN: That is, that the Commissioners representing Australia should, as far as possible, be the mouthpiece of the combined Agents-General. That, of course, to a great extent provides for unanimous action.

The Hon. Mr. COOK: I take it we are settling up all our differences here beforehand.

The Hon. Mr. REEVES: Do you mean that this Conference should suggest to the Commissioners—should send a kind of suggestive mandate—that they should consult the combined Agents-General in London?

The Hons. Messrs. COOK and DUFFY: Yes.

The Hon. Mr. THYNNE: I may say when Messrs. Duffy and Cook met me here before I suggested the names of two gentlemen, not Agents-General,—Lord Jersey, who is well acquainted with Australia, and Sir Edwyn Dawes, the latter a well-known financier, and a gentleman of great experience in large undertakings, such as the Suez Canal, of which he is Chairman.

The Hon. Dr. COCKBURN: Four names have been mentioned. Let it be distinctly understood before the personnel is agreed upon that they are to act in conjunction with the Agents-General, and to consult with them in reference to matters brought before the Commission.

The Hon. Mr. REEVES: I am indifferent on that point.

The Hon. Mr. THYNNE: Apparently my proposition is not received.

The Hon. Mr. REEVES: I would say at once it would suit our Colony perfectly—Lord Jersey and Sir Edwyn Dawes. I am prepared to support that.

The Hon. Mr. THYNNE: Men are wanted with special training in the management of large undertakings such as they have had. Those are the views of my Government.

The Hon. Mr. DUFFY: My Government is very strong on the point of the two Agents-General. They are capable men, in full touch with the Colonies, and if they are directed to consult with the Agents-General of Australasia, these would have control over them, which could not be in the case of Lord Jersey or Sir Edwyn Dawes. As regards Lord Jersey, he is an admirable man, but probably the Home Government will appoint him as one of their own Commissioners. Sir Saul Samuel and Mr. Duncan Gillies are familiar with the affairs of the Colonies, and the Parliaments of the Colonies have after all to be consulted over these things. It would facilitate matters if, when things are discussed, our interests are looked after by men in touch with ourselves. My Government is very strong about that.

The Hon. Mr. REEVES: Do we wish to interfere with the Commissioners after they are appointed, other than by general directions? They go in to probe matters to the bottom and give their own opinion.

The Hon. Mr. COOK: There will still be the acceptance or rejection after a scheme has been prepared. Supposing you have your own Agents-General to consult, you could say to them what you could not say to an outsider—"If this is carried in a certain way, we cannot join the undertaking." If you had independent Commissioners who would be disposed to take an Imperial as against a Colonial view of a matter, it would be very much more difficult. That is the feeling. Imperial considerations may conflict with Colonial, and as the policies in that respect of England and the Colonies differ very materially on some points, it would be an advantage to have people directly under our own control to whom we can talk freely. Here is another reason—I put it to you in all candour: Sir Saul Samuel is now old; he has been there thirteen or fourteen years; he has done our business so splendidly that he has acquired a sort of proprietary right in his office;—it might be that younger men would have more energy, but it would not be a gracious action in his old age to snub him in any way, or to make an invidious distinction. We feel that if the matter were referred to the Agents-General themselves, Mr. Gillies and Sir Saul Samuel would be selected as being the senior.

The Hon. Mr. REEVES: The question is, are we called upon to decide on the ground of seniority? I would much sooner be in a position to talk on this matter without my remarks being taken down.

[*Shorthand writer requested to stop note-taking.*]

After a time,—

The Hon. Mr. THYNNE: To bring the matter to a point, I formally move, "That Lord Jersey and Sir Edwyn Dawes be nominated as the representatives." The

The Hon. Mr. REEVES seconded.

The Hon. Mr. COOK: Put it "That Lord Jersey and Sir Edwyn Dawes be the two Commissioners in London."

(On a vote—2 for, 3 against.)

The Hon. Mr. DUFFY: And that they be requested in any important questions arising to consult with the Agents-General.

The Hon. Dr. COCKBURN read a telegram he had received from Tasmania *re* giving his vote on the appointment of the Commissioners. I recognise that the terms of the resolution moved by Mr. Duffy (providing that those who are appointed should take the opportunity of consulting with the other Agents-General) remove very much the difficulty I would otherwise feel in voting for it, and I am bound to be swayed by the mode in which the resolution has been brought forward, and the kindly feeling shown, and further, will admit the cogent reason that I see no prospect of the ideas of the Colonies I represent in this matter being met. I therefore support the resolution.

The Hon. Mr. COOK moved, and Mr. DUFFY seconded: "That Sir Saul Samuel and Mr. Gillies be appointed as representatives of the Australasian Colonies as delegates on the Commission in connection with the Pacific cable, and that they be requested to consult in all important points with the Agents-General of the other Australian Colonies."

The resolution was put.

The Hon. Mr. REEVES: I could not vote for that. I do not know what view our Government may take of our action here. Some may dissent. As a matter of courtesy, I think what we do here should be communicated to our Governments. Ought we to take upon ourselves the responsibility of sending these resolutions on to the Commissioners?

The Hon. Mr. DUFFY: Oh, no, no; that is not proposed. There will be another resolution that our Governments be requested to do that. Pass this first, then we can have another motion.

The Hon. Dr. COCKBURN: Will you allow me to record a motion to show those Governments with which I am not connected that I have at least not lost sight of their special mandate. Each has given instructions, and I would like to have a motion tabled that an additional Commissioner be appointed to represent the views of the Western Colonies; although I suppose it is no use asking for a seconder.

The main resolution (The Hon. Mr. Cook's) was then carried, and it was understood that the other delegates consented to record The Hon. Dr. Cockburn's motion *re* third Commissioner.

The Hon. Dr. COCKBURN submitted a resolution: "That the Commission be asked, in any recommendations they may make, to take into consideration the outlay incurred by South and Western Australia in providing telegraphic communication with the outside world." Sir John Forrest authorised me to represent Western Australia only on one point, but I do not think he meant—I do not want to take him absolutely at his word, especially as my own Government ask for consideration. Western Australia has certainly done something, though not as much as South Australia.

[*The shorthand writer was asked not to take down remarks at this stage.*]

Subsequently, The Hon. Dr. Cockburn's resolution was read.

The Hon. Mr. COOK: Is that necessary?

The Hon. Dr. COCKBURN: Well, I would like to move it; but if it does not meet with general consent I will not press it.

The Hon. Mr. THYNNE: What about communicating the results of this Conference to delegates?

The Hon. Mr. DUFFY: That should be done by the Governments when they are appointed. We will recommend that our suggestions be conveyed to our Governments.

The Hon. Mr. COOK: I think what is wanted is a short explanation or report—a sort of explanatory report, with the votes and proceedings.

The Hon. Dr. COCKBURN: And on the appointment of the Commission by the respective Governments, a copy of the proceedings of this Conference be furnished to them.

The Hon. Mr. COOK: We have to report to someone; that someone is our respective Governments, and we had better have an explanatory report.

The Hon. Mr. THYNNE: If you have a report of that kind, of course it would have to be brought up and considered.

The Hon. Mr. REEVES: I move, "That it be a recommendation to the Governments represented at this Conference to forward the foregoing resolutions to the Australian Commissioners."—Carried.

The Hon. Mr. DUFFY: What about the Press?

The Hon. Mr. REEVES: I suppose they ought to get the resolutions with some general statements.

The Hon. Mr. COOK: Ought they to get the resolutions? There should be a general statement. I would suggest that Mr. Duffy and Mr. Reeves—as two old pressmen—make out a statement.

The Hon. Mr. REEVES: The only thing is, I am very much pressed for time. I have to pack up for to-morrow.

Nothing definite was decided upon, and the Conference adjourned at about 12·30 p.m.

MONDAY, 20 *JANUARY*, 1896.

Hon. Mr. COOK took the Chair at 11 a.m.

It was decided that as the London Postal Authorities requested that all proceedings connected with the preparation of the invitation for tenders for the Federal Mail Contract should be considered as confidential, it was not expedient to admit the Press.

On the Secretary reading the minutes of Saturday's proceedings, conversation took place on several points, and some alterations were made. The minutes were then confirmed, *nem con.*

The Hon. Mr. COOK: Nothing remains but the consideration of these mail conditions. At the last Conference we made a number of stipulations with regard to the next contract; they were duly forwarded to London and considered there. In reply there came out on the 29th March last year a reply to the representations of the Hobart Conference. I see by a later letter from London that the only two points that now present any difficulty are the questions of cold storage and coloured labour. I think we are pretty well

well agreed not to insist upon the mail boats providing cold storage for Australian products. We recognise that England must have a large say in this matter as well as ourselves, she being the largest contributor and has a very strong feeling in the matter. Some of her arguments, no doubt, are very cogent—for instance, that in which she says she could not be expected to contribute towards the cost of carrying Australian produce. I think we might very well let that go by the board. With regard to the other matter, that of manning the boats with white labour only; that is one that does not present difficulties of the kind which the other does. The London Office goes into the question at some length, and makes, I may say, some rather sarcastic remarks. There is some fine irony in the sentence in which they "see a difficulty in defining the shade of colour which would render sailors eligible, &c." I have only to say in reply to that that we are forced from our point of view to raise this question, and we are forced by reason that the shipowners themselves make a choice between the two kinds of labour. If they simply left the matter open and employed indiscriminately black or white labour as it came along, it would be different; but they themselves religiously exclude from their boats any white labour whatever so far as the lower class of labour is concerned. (Dr. COCKBURN: You don't say the "Orient"?) I am speaking of course of the P. and O. Company only. So that while it may be a point of difficulty with the British Government, it is also a point of difficulty with regard to the Colonies. We are compelled to make a choice because the company, with the concurrence evidently of the British Government, makes a choice which involves the exclusion of white labor; and in self defence, and in justice to our own people living amongst us and subject to the same conditions of life as we are, I think we should simply say—"Since we have to pay these ships handsomely for carrying our mails, they should carry our own labour in preference to that which does not assimilate to our mode of life." That is my view of the matter, and I hold it very strongly.

The Hon. Mr. DUFFY: Of course, the difficulty in this matter is that we are not the predominant partner. Not only is the Imperial Government the largest proprietor, but we are not even a united Australia ourselves, as Sir John Forrest takes the trouble to remind us by telegram. Mr. Fysh is indifferent in the matter, and I understand that Queensland is practically indifferent also. Only three Colonies, therefore—South Australia, Victoria, and New South Wales—take any real interest in the matter. No doubt in Victoria there is a very strong feeling held that owners of mail boats should not employ coloured labour, and strong prejudice is felt in favour of the Orient as against the P. and O. Company; and we are corroborated in the practicability of this course by the action Queensland has taken already. I understand they have a mail contract with the British-India Company, under which the Company is prohibited from bringing coloured labour into Queensland, and they arrange accordingly. They employ it in other contracts, but when sending ships to Queensland they don't have a coloured crew on board. I don't know if it would be practicable for the successful tenderer for the Federal Service to adopt such a plan. Of course, if we were conducting our own mail service, I presume there would be no difficulty about it; but we only take fifteen thirty-fourths, and England nineteen thirty-fourths, and even of that smaller part, fifteen thirty-fourths, only some contributors have an interest in this question. It is very difficult, and I am not prepared to say how far we should go. At present I think we ought to wait until we get the letter from England on which that telegram we have received is based. It says "letter following," and it is this letter with full explanations which may place us in a better position to judge; but unless the arguments are absolutely overwhelming we ought to send a reply to the Imperial Government that certain Colonies must insist that coloured labour must not be employed, or if it is we fear there will be a difficulty with our Parliaments in getting the necessary votes passed. I understand Queensland is prepared to back up the other three Colonies as regards that proceeding at all events.

The Hon. Mr. COOK: I would like to say what I omitted a moment ago, that I have just concluded an agreement with the Canadian Pacific Company, owned by Mr. Huddart, and in that agreement it is stipulated clearly that no coloured labour shall be employed, and I may say that Mr. Huddart cheerfully assented to that.

The Hon. Mr. THYNNE: It seems to me that there should be no difficulty whatever in any contract in which the Colonies have a controlling power in making such a stipulation, and it is in accordance with Australian sentiment that it should be observed. As stated by Mr. Duffy, in our contracts we have had that stipulation for many years, and in our negotiations for a renewal of the agreement as a refrigerating cargo service the same stipulation is inserted. Our Government would like to see the stipulation applicable to the Suez mail contract if it could possibly be done. Where we are lukewarm is not in the desire to have white labour employed, but in the belief that we are at all likely to succeed in getting the Imperial Government to consent to such a stipulation being inserted. We have already pressed the matter strongly on the Imperial Government, and they—although we have not yet received their full explanation as to the reasons why they refuse—we can quite see that the Imperial Government are in a difficult position, having its duties to a large number of subjects who are not white, and to whom they owe care and attention just the same as to the people of our own race. They no doubt are embarrassed with this question, and it is a matter for us to consider how far we should press upon the Imperial Government the insertion of a clause which would greatly embarrass them. That is the view which I expressed on behalf of the Queensland Government, and which I think I conveyed to the meeting of Postmasters-General which I attended at Adelaide last year. (Mr. Thynne here read a copy of the letter which he had written to Dr. Cockburn in June last, relative to the manning of mail boats by white labour, and hoping that the British Government would waive its objections in the matter.) I think that, Mr. Chairman, expresses the views which my Government holds in this matter, and which have been, I believe, communicated to the Agent-General in London in some correspondence. I should be very glad if you think there is any possibility of succeeding, to support you in this question.

The Hon. Dr. COCKBURN: It is with regret that I see no prospect of carrying out the wishes of South Australia, and of several other Colonies, in reference to cold storage, but I recognise difficulties in the way of this. There is no unanimity on the part of the Colonies; there are difficulties from the Imperial point of view, and, more than that, the requirements of the Colonies in this respect are from time to time being met by other than the mail boats, which of course alters the aspect of the case which it assumed at previous Conferences. I am reluctantly bound to admit that we cannot further press the question. About the coloured labour question, I think the best interests of the Imperial Government, the Colonies, and all English-speaking races, are identical in this matter, and I certainly think we should relax no effort to obtain the retention of this clause. (Mr. DUFFY: Hear, hear.) That is the opinion strongly held by South Australia; in fact, I raised the point at the New Zealand Conference, and supported the Chairman when

he

he went into it still more fully at the Hobart Conference. Of course, as the Conference is aware, I have also to place before it that Western Australia does not share these views, and in recording my vote according to the commissions placed in my hands by Sir John Forrest, I shall record the vote for Western Australia in favour of the view expressed by the British Post Office, but at the same time for South Australia in the other direction.

(Some conversation ensued as regards the telegram from the London Office requesting a reply by telegraph.)

The Hon. Dr. COCKBURN: I should like to remove some misapprehension which may possibly have arisen in regard to the wording of that telegram. It reads, "Please telegraph acquiescence." Those are the words of the British Post Office, not my own. I never heard till yesterday that there was any ambiguity. I forwarded it on in the first instance with no comment, merely for circulation to all concerned. I was surprised when I heard that Queensland read those words as coming from myself.

A resolution was then drafted by The Hon. Mr. Cook, who remarked that Mr. Reeves had authorised him to record the New Zealand vote. When the resolution was finally revised by the delegates, it was read by the Chairman.

The Hon. Dr. COCKBURN: Wait a minute; I don't quite know what to do in regard to Tasmania.

The Hon. Mr. COOK: I have a similar telegram from Mr. Fysh regretting he could not accept our invitation, and instructing you to represent that Colony.

The Hon. Dr. COCKBURN: I am not very sure how strong their attitude was.

The Hon. Mr. DUFFY read a telegram from Mr. Fysh, remarking that they did not seem inclined to fight.

The Hon. Mr. COOK: You are quite safe in holding up your hand against it.

The Hon. Mr. DUFFY: Western Australia is distinctly adverse.

The Hon. Dr. COCKBURN: If I place on record that Tasmania is in favour of acquiescence in the views of the London Post Office, and that Western Australia desires her vote to be recorded against the resolution—

The Hon. Mr. DUFFY: This is quite confidential—you have only to report that it was carried, and Western Australia dissented.

The Hon. Mr. COOK: Just say "carried."

The motion was then put:—

"This Conference having considered the reply of the London Office to the stipulation of the Hobart Conference, with regard to the manning of the Mail Boats by white instead of coloured labour, recognises fully the force of the reason given by the Imperial Government against insisting on the exclusion of coloured labour, viz., the necessity of discriminating between various classes of British subjects; but in reply would respectfully point out that by some Steamship Companies the labour of the contributing Colonies is excluded from employment, and an invidious preference given to the labour of countries which do not contribute to the maintenance of the service. No injustice would thus be done by the stipulation that the labour of the countries subsidising the service only should be employed. And, therefore, this Conference is of opinion that the mails to and from Australia and Great Britain should be carried by ships manned with white crews only."

It was added: "That this Conference concurs with the London Office on the other points in connection with the new mail tenders."

A cablegram embodying the decision of the Conference was framed to send to London Post Office, and the Conference adjourned at 1 p.m. to 10 a.m. Tuesday, to sign report, &c.

The Hon. Mr. THYNNE said, that before separating he desired to move a cordial vote of thanks to the Chairman, the Honorable Mr. Cook, for his valuable services and courtesy in presiding over the Conference. He felt sure that the satisfactory conclusion of their work had been materially assisted by Mr. Cook's special tact and ability in the matters which had been before them for discussion, and it was a pleasure to move that a hearty vote of thanks be accorded to him.

The Hon. Dr. COCKBURN seconded the vote, saying he was glad they had been able to meet in a friendly way, and discuss matters of general interest to the Colonies in regard to telegraph affairs, &c. In thus mutually meeting one another, and acting as far as possible co-operatively, they were carrying out the spirit which had characterised the transactions of Australasian Conferences in the past. He expressed to Mr. Cook his indebtedness for the hospitality and courtesy with which that gentleman had, on behalf of his Government, administered to the comfort of the delegates and their friends during their visit to Sydney.

The Hon. Mr. COOK: Gentlemen, I am only going to say that I am obliged to you for the vote of thanks you have so kindly accorded to me. I think we have every reason to congratulate ourselves on the amicable arrangements that have been made. I think they must be satisfactory on further reflection to all who are represented here. I express what I believe to be the feeling of the larger colonies when I say we are very glad that South Australia has shown a spirit of reciprocity in joining in the contract in regard to the Pacific Cable; and I am sure that the other colonies will maintain the friendly attitude which they have taken up. I hope the way is now clear, and that ere long United Australia will see the accomplishment of the Pacific Cable. The views we have expressed here will stand as an indication of the way in which the various conflicting interests of the colonies may be dealt with. He thanked the delegates for their kindly expressions towards himself.

The vote of thanks was passed.

The Hon. Mr. DUFFY moved a vote of thanks to Mr. James Dalgarno, for the efficient manner in which he had carried out the duties of Secretary to the Conference, and The Hon. Mr. THYNNE seconded.

The Hon. Mr. COOK said he had much pleasure in putting the resolution to the meeting.

The vote was carried.

Mr. DALGARNO acknowledged the compliment.

Re Proposed Pacific Cable Commission.

Extract from a Memorandum of His Excellency the Governor of New South Wales to The Honorable the Premier of New South Wales, dated 15th February, 1896.

"In accordance with your desire I have this day cabled the Secretary of State that the Colonies have agreed to the nomination of Sir Saul Samuel, K.C.M.G., &c., and the Honorable Duncan Gillies as Australasian Representatives on the proposed Pacific Cable Commission. Proposals to be reserved for the approval of the Colonial Governments."

Cablegram from The Honorable the Premier of New South Wales to The Agent-General for New South Wales, dated 14th February, 1896.

Pacific Cable Commission. You and Gillies have been nominated representatives Australasia, on understanding you consult other Agents-General on important points, and that any scheme proposed shall be subject to approval. Letter by post giving resolutions passed at Intercolonial Conference, which are published in *Herald* of the 20th January last.

Further Telegraphic Communications re Question of Employment of Coloured Labour in connection with the Federal Mail Service.

Telegram from The Postmaster-General, London, to The Postmaster-General of New South Wales, acting as President of the Intercolonial Postal and Telegraphic Conference, Sydney.

25 January, 1896.

Duke of Norfolk, thanking Conference for considerate telegram, regrets necessity for saying Government must decline exclusion coloured labour. Such restrictions opposed to settled policy of Parliament during nearly fifty years, and specially indefensible for service touching Asiatic possession and connecting Australasia with Asiatic dominions. Of course, contract would not exclude Colonial labour. Time pressing, and, in view of position of Government, do Colonies consent invitation tenders as drafted?

Telegram from The President of Postal Conference, Sydney, to The Postmaster-General, London.

19 February, 1896.

Federal Mail. Will be difficult, if not impossible, some Colonies obtain Parliamentary sanction without stipulation. Urge your reconsideration matter.

Telegram from The Postmaster-General, London, to The President of Postal Conference, Sydney.

20 February, 1896.

Difficulty much regretted; exclusion coloured labour from Federal Service impossible after fullest consideration.

Telegram from The President of Postal Conference, Sydney, to The Postmaster-General, London.

24 March, 1896.

Regret your decision *re* coloured labour. Suggest you ask tenderers to state class of labour proposed to employ.

Telegram from The Postmaster-General, London, to The President of Postal Conference, Sydney.

27 March, 1896.

No tender excluding coloured labour could be accepted. Specification of class therefore useless. If Colonies cannot join in Federal Service on terms agreed, please telegraph whether they will arrange branch service to and from Colombo and Aden alternately, or complete homeward service, as advertisements cannot be delayed longer.

Telegram from The President of Postal Conference, Sydney, to The Postmaster-General, London.

1 April, 1896.

Much regret you decline to do anything *re* coloured labour. We are not in position to call for tenders on our own account, and are therefore compelled accede to your proposal.

Telegram from The Postmaster-General, London, to The President of Postal Conference, Sydney.

1 April, 1896

Colonies' consent received with satisfaction. Tenders will be immediately invited, returnable 7th July.

Sydney: Charles Potter, Government Printer.—1896

[1*s.* 3*d.*]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PENNY POSTAGE—POSTAGE ON NEWSPAPERS.

(PETITIONS FROM RESIDENTS OF NEW SOUTH WALES, IN FAVOUR OF A MEASURE EQUALISING THE POSTAGE IN TOWN AND COUNTRY.)

Received by the Legislative Assembly, 19 *August*, 1896.

To the Honorable the Speaker and Honorable Members of the Legislative Assembly of New South Wales.

The Petition of the undersigned Residents of New South Wales,—

SHOWETH:—

1. That the present postage rate within the large metropolitan area of Sydney is one penny for a letter not exceeding half-ounce in weight.

2. That throughout the country districts of New South Wales the postage, even for short distances, is twopence for letters of the same weight.

3. That country residents, the producers of the Colony, are thus compelled to pay twice as much for the postage of their letters as residents in Sydney.

4. That whereas country residents, who post very little printed matter, pay twopence for every letter weighing half-ounce or under, while printed matter, coming mostly from Sydney, is carried at one-fourth that rate for four times the weight, or sixteen times cheaper than country letters.

5. That this is inequitable, and presses unfairly upon country residents and all who correspond with them.

Therefore your Petitioners pray that your Honorable House will pass a measure equalising the postage in town and country, by making a general rate of one penny upon all letters not exceeding half-ounce in weight posted and delivered within the Colony, and that if it be necessary to raise further revenue to enable a penny inland post to be established, that your Honorable House will impose a half-penny postage rate upon all newspapers posted for delivery within the Colony, save and except newspapers sent free as exchanges and newspapers delivered free within the Electorate in which the paper posted has been printed and published.

And your Petitioners, as in duty bound, will always pray.

[*Here follow* 728 *signatures.*]

Similar Petitions were received,—

On 19th August, 1896, from certain Residents of New South Wales; 649 signatures.

,,	,,	,,	,,	221	,,
,,	,,	,,	,,	204	,,
,,	,,	,,	,,	99	,,
,,	,,	,,	,,	650	,,
,,	,,	,,	,,	136	,,
,,	,,	,,	,,	266	,,
,,	,,	,,	,,	140	,,
,,	,,	,,	,,	276	,,
,,	,,	,,	,,	187	,,
,,	,,	,,	,,	59	,,
,,	,,	,,	,,	279	,,
,,	,,	,,	,,	820	,,
,,	,,	,,	,,	356	,,
,,	,,	,,	,,	208	,,
,,	,,	,,	,,	370	,,
,,	,,	,,	,,	293	,,
,,	,,	,,	,,	60	,,
,,	,,	,,	,,	191	,,
,,	,,	,,	,,	155	,,

On

On 19th August, 1896,	from certain	Residents	of New South Wales;	499	signatures.
"	"	"	"	323	"
"	"	"	"	708	"
"	"	"	"	204	"
"	"	"	"	180	"
"	"	"	"	70	"
"	"	"	"	156	"
"	"	"	"	329	"
"	"	"	"	111	"
"	"	"	"	213	"
"	"	"	"	186	"
"	"	"	"	41	"
On 20th August, 1896				96	"
"	"	"	"	110	"
"	"	"	"	118	"
"	"	"	"	181	"
"	"	"	"	253	"
"	"	"	"	777	"
"	"	"	"	124	"
"	"	"	"	175	"
"	"	"	"	711	"
"	"	"	"	836	"
"	"	"	"	473	"

Sydney: Charles Potter, Government Printer.—1896.

[3d.]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PENNY POSTAGE—POSTAGE ON NEWSPAPERS.

(PETITIONS FROM RESIDENTS OF NEW SOUTH WALES, IN FAVOUR OF A MEASURE EQUALISING THE POSTAGE IN TOWN AND COUNTRY.)

Received by the Legislative Assembly, 25 *August*, 1896.

To the Honorable the Speaker and Honorable Members of the Legislative Assembly of New South Wales.

The Petition of the undersigned Residents of New South Wales,—

SHOWETH:—

1. That the present postage rate within the large metropolitan area of Sydney is one penny for a letter not exceeding half-ounce in weight.

2. That throughout the country districts of New South Wales the postage, even for short distances, is twopence for letters of the same weight.

3. That country residents, the producers of the Colony, are thus compelled to pay twice as much for the postage of their letters as residents in Sydney.

4. That whereas country residents, who post very little printed matter, pay twopence for every letter weighing half-ounce or under, while printed matter, coming mostly from Sydney, is carried at one-fourth that rate for four times the weight, or sixteen times cheaper than country letters.

5. That this is inequitable, and presses unfairly upon country residents and all who correspond with them.

Therefore, your Petitioners pray that your Honorable House will pass a measure equalising the postage in town and country, by making a general rate of one penny upon all letters not exceeding half-ounce in weight posted and delivered within the Colony, and that if it be necessary to raise further revenue to enable a penny inland post to be established, that your Honorable House will impose a half-penny postage rate upon all newspapers posted for delivery within the Colony, save and except newspapers sent free as exchanges and newspapers delivered free within the Electorate in which the paper posted has been printed and published.

And your Petitioners, as in duty bound, will always pray.

[*Here follow* 111 *signatures.*]

Similar Petitions were received,—

On 25th August, from certain Residents of New South Wales;			119	signatures.
,,	,,	,,	358	,,
,,	,,	,,	648	,,
,,	,,	,,	60	,,

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

PENNY POSTAGE—POSTAGE ON NEWSPAPERS.

(PETITION FROM RESIDENTS OF NEW SOUTH WALES, IN FAVOUR OF A MEASURE EQUALISING THE POSTAGE IN TOWN AND COUNTRY.)

Received by the Legislative Assembly, 1 *September*, 1896.

To the Honorable the Speaker and Honorable Members of the Legislative Assembly of New South Wales.

The Petition of the undersigned Residents of New South Wales,—

SHOWETH:—

1. That the present postage rate within the large metropolitan area of Sydney is one penny for a letter not exceeding half-ounce in weight.

2. That throughout the country districts of New South Wales the postage, even for short distances, is twopence for letters of the same weight.

3. That country residents, the producers of the Colony, are thus compelled to pay twice as much for the postage of their letters as residents in Sydney.

4. That whereas country residents, who post very little printed matter, pay twopence for every letter weighing half-ounce or under, while printed matter, coming mostly from Sydney, is carried at one-fourth that rate for four times the weight, or sixteen times cheaper than country letters.

5. That this is inequitable, and presses unfairly upon country residents and all who correspond with them.

Therefore your Petitioners pray that your Honorable House will pass a measure equalising the postage in town and country, by making a general rate of one penny upon all letters not exceeding half-ounce in weight posted and delivered within the Colony, and that if it be necessary to raise further revenue to enable a penny inland post to be established that your Honorable House will impose a half-penny postage rate upon all newspapers posted for delivery within the Colony, save and except newspapers sent free as exchanges and newspapers delivered free within the Electorate in which the paper posted has been printed and published.

And your Petitioners, as in duty bound, will always pray.

[*Here follow* 181 *signatures.*]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

MILITARY FORCES OF THE COLONY.

(REPORT FOR THE YEAR 1895.)

Printed under No. 2 Report from Printing Committee, 28 May, 1896.

REPORT for the Year 1895, by Major-General E. T. H. HUTTON, C.B., Aide-de-Camp to Her Majesty the Queen, Commanding the Military Forces of New South Wales.

1ST SECTION.

SUMMARY AND REMARKS.

(1.) As a result of the reconstruction and reorganization of the Military Forces of New South Wales which has been effected since June, 1893, the Colony now possesses a small but complete military force, organized throughout every branch and every department upon the latest modern lines. The requisite proportions of Cavalry (including Mounted Rifles), Artillery, and Infantry have been laid down, together with the requisite number of Engineers, Medical Staff, Army Service Corps, and Ordnance Store Corps.

A Veterinary Department, a Remount Depôt, and a Corps of Staff Clerks have recently been added.

(2.) The peace establishment of each military unit was approved in 1894, and the increase of this establishment to the war requirements has now been similarly accepted. A complete framework has thus been approved by Government upon which the details of mobilization in time of war have now been built, and the whole available Military Force of the Colony can, at short notice, be mobilized for war upon the principles and at the places laid down in the Defence Scheme.

The principle has been observed of making the Military Force of the Colony upon peace footing a complete Cadre Force, which, upon the declaration of a national emergency, can be at once expanded to the adequate dimensions for the effective fufilment of the "Defence Scheme of the Colony." The Colony thus possess a complete cadre form of each administrative department in proportion to the peace or war establishment of its fighting strength, so that the whole Military Force can be mobilized, and then utilised at the shortest notice in any manner which Parliament may think best in the public interest without the improvised creation of those departments upon a sudden emergency, which are vital to the efficiency of any military force, and without which an army is a mere assemblage of armed men without cohesion, without power of locomotion, and without the proper means of maintenance. In this respect the Military Force of the Colony of New South Wales stands alone among other similarly constituted military forces.

(3.) Following upon the decentralisation of command, and upon the effective measures for improving the professional knowledge of the officers, which have been carried into effect, a satisfactory condition of discipline and subordination exists throughout the Force. The improved knowledge of the officers, and the system of Annual Field Training, initiated in 1894, have caused a most marked increase of military

military knowledge and efficiency throughout the entire Force. This has been conspicuously so in the Permanent Artillery, where the technical training up to June, 1893, was small and utterly inadequate to modern requirements.

The officers throughout the whole Force have combined to make the reorganisation of the Force successful, and to ensure the far higher standard of efficiency which has been reached.

(4.) Reduction in Military Expenditure.

A rigid economy has been exacted throughout every branch of the Force, and the following comparative Schedule will show the reduction in expenditure which has been effected since 1890 :—

Year.	Voted by Parliament.	Spent.	Saved.	Remarks.
	£	£	£	
1890 ...	246,000	246,000	.. ..	Including nine days' training in a central Camp of Instruction.
1892 ...	225,366	224,746	620	No training in camp.
1894 ...	174,372	170,874	3,498	Short local Camps of Instruction.

It will be seen from the above that a reduction in the military expenditure for 1894 has been effected of £75,126 since 1890, or a 30½ per cent. reduction from the total Military Vote for that year; and a reduction of £53,872, or 23 per cent., has been effected since 1892, when no camps of training were held, although a slight increase in numbers has taken place. The expenditure for 1895 will be approximately the same as for 1894.

I desire to invite attention to the fact that this important reduction in military expenditure, demanded by the recent financial depression, could only have been carried into effect without serious detriment to the effective condition of the military Force by the heartiest determination upon the part of all ranks to co-operate for the advantage of the State by much self-sacrifice.

I am of opinion that the reduction of the Military Vote below £200,000 per annum cannot be reckoned upon, having in regard the constant advances of military science, and the necessity for maintaining the war material and equipment in a proper and complete condition of modern efficiency.

(5.) Head-Quarter Staff, &c., Services of.

Upon the relinquishing of my command it is my pleasing duty to bring the services of the members of the Head-Quarter Staff most prominently to the notice of the Government. It is to them that is due the credit for carrying into effect the orders that have been given so as to ensure a modern system of organization, increased efficiency, and decreased expenditure.

It has been, moreover, due to the labours of the members of the Head-quarter Staff that the details of the "Australian Federal Scheme of Defence" have been elaborated for use upon a national emergency. The New South Wales Government have thus been in a position to submit for the general acceptance of the Australian Colonies and Tasmania a scheme of Australian federal defence complete in every detail, which has received in principle the official concurrence of the Colonial Defence Committee, composed of the highest naval and military authorities in London.

The promotions and distinctions which have been conferred by His Excellency the Governor and Commander-in-Chief, with the advice of the Executive Council, upon several officers for their services in various capacities are deeply appreciated by the whole Force as a recognition, not only of the merits of the officers concerned, but of the efforts of the whole Force to merit these tokens of His Excellency's approval.

The selection by Her Majesty the Queen of the Colonel Commanding the 3rd Infantry Regiment, who is not only the senior officer of the Volunteer Force, but who has also commanded his regiment for sixteen years, for appointment to the Most Distinguished Order of St. Michael and St. George, has been received with a feeling of the greatest satisfaction, as not only an honor to the recipient, but as a gracious recognition on the part of Her Majesty of the loyalty and zeal of the whole Military Force of the Colony.

2ND SECTION.

GENERAL REPORT.

(6.) ADMINISTRATION.

The Executive and Administrative Departments of the Head-Quarter Staff have worked in every respect satisfactorily.

The duties of the Military Secretary in connection with "C" (or Ordnance) Branch of his Department have been confirmed by his recent appointment as Director of Artillery and Stores.

The Quartermaster-General's Department has been conspicuous in enforcing a rigid economy. The Ordnance Department has made great and most important strides towards a high degree of efficiency, and has, in consequence, been the means of ensuring a proper care and supervision over all stores, and an economical control over Government property.

(7.) REDUCTION.

A reduction of one-third of the personnel of the Artillery Workshops has been effected, representing a saving of approximately £800 per annum.

(8.) ORGANIZATION.

The following Departments, &c., have been added to the Military Establishments :—

Ordnance Store Corps.

This Corps has thus been formed without extra cost by enrolling as soldiers the employés in this Department, who were formerly serving as civilians in a military department. The Corps is divided as follows :—

1st Section—Gun Wharf.
2nd Section—Magazine.
3rd Section—Armourers.

Veterinary Department.

A nucleus of this important Department has been created, which can be rapidly expanded on mobilization. A Principal Veterinary Surgeon has been appointed, and regulations framed for the maintenance and guidance of this Department. The necessary stores, &c., have been procured. A system of instruction and supervision of Farriers and Shoeing Smiths in the Mounted Corps will now be initiated. The cost has been nominal.

Corps of Staff Clerks.

The civilian clerical Staff have been enrolled as soldiers, and are now formed into a corps without extra cost. The members are classified in accordance with their duties, and their responsibilities.

(9.) TRAINING OF TROOPS.

The Annual Field Training, instituted in 1894 for the whole of the squadrons, batteries, and companies, has had the most beneficial results.

Due to the requisite military knowledge having been gained in the Schools of Instruction for officers created in 1893, the Annual Training of the squadrons, batteries, and companies is now entirely carried out by their own officers. This has had the effect of increasing the confidence of the men in the knowledge and professional acquirements of their officers, which in its turn has most materially improved the discipline as well as the efficiency of the whole force. The great principle has thus been maintained "that the man who leads must be he who instructs."

However sanguine I had been of the success that would attend the institution of a system of Annual Field Training, I was not prepared for the very marked and important results that have followed.

The

The infinite trouble taken by the officers to make the instruction given during the course of a practical character and the lectures attractive is only equalled by the interest shown by the non-commissioned officers and men themselves in the new system of training. In many instances a very considerable standard of military knowledge has been reached.

(10.) Artillery Practice.

The firing carried out during the year 1895 is published herewith in Appendix "C."

(11.) Advanced Training in Camp.

A series of local Camps of short duration have been held so far as money and means allowed. (*Vide* Appendix L.)

The short course of continuous training for the Metropolitan Troops, even though it consisted only of two days, exclusive of a Sunday, was productive of much good.

I have already pointed out that these local Camps for such short periods as two or three days are inadequate for the purpose of continuous training. I cannot too strongly urge the necessity of a system of continuous training for at least six working days for Field Artillery, Cavalry, Mounted Rifles, and Infantry.

Not only is this instruction necessary if the troops of the Colony are to have any pretension to real efficiency for war, or, in other words, for the purpose for which they exist, but without the concentration of larger bodies of troops the staff and senior officers cannot possibly learn their duties. The result of the senior officers having no opportunities of practice and instruction must be that no officers in the Colony will exist who have the requisite knowledge and experience to lead and command the men whom the Colony spend large sums of money yearly in training and equipping. The command, the organization, and the administration of troops in the field cannot be learnt except by practice, and it should be the aim of New South Wales to so give her officers opportunities of acquiring these powers as to make the Colony independent of Imperial officers, or of officers trained elsewhere.

Rather than sacrifice their continuous training in camp, I would recommend that if additional money cannot be placed at the disposal of the General Officer Commanding, a readjustment of the half-day parades should be made, and pay for six whole days should be set aside for a six days camp of continuous training per annum. I would point out that some measure of efficiency on the part of the individual squadrons or companies would be sacrificed from this curtailment of their individual training; but I attach a higher importance to the concentration of larger bodies for the reasons stated above, than to any other matters in connection with the training of the New South Wales troops.

(12.) Training of Officers.

A Schedule is given in Appendix "B," which shows the various Schools of Instruction for officers which are in existence.

It is proposed during the current year to organize a similar system of Schools of Instruction for the non-commissioned officers of each branch of the Military Force.

A School of Instruction for Field Artillery, for machinery in connection with Artillery, and in Field Engineering, has been instituted since 1894.

The greatest benefit has been derived from the institution of the whole of these schools, the cost of which is nominal.

The following officers returned from India on the 29th March, 1895, after having been attached for instruction to the Staff and to the various arms of the Service with Imperial Troops in India, viz.:—

Lieut.-Colonel H. D. Mackenzie, Assistant Adjutant-General.
Captain H. W. Dangar, Field Artillery.
Captain J. G. Legge, General Staff.
Captain J. W. MacArthur Onslow, Mounted Rifles.

The last-named officer returned on the 7th January, 1896, having been permitted, at his own expense, to be attached to the Chitral Expeditionary Force in N. W. India.

Very

Very satisfactory reports have been forwarded regarding the above officers from the Commander-in-Chief in India and the various officers under whom they served. Captain Onslow served upon active service with the 1st Battalion, King's Royal Rifles, throughout the Chitral Campaign, and was present at the assault of the Malakand Pass, and subsequent operations.

It is impossible to over-estimate the importance to the Colony of the practical knowledge and training obtained by the above officers, and I strongly advocate that at least two officers be sent during the cold season of 1896–7 to India in a similar manner.

Captain Kyngdon, Permanent Artillery, is at present in England undergoing a complete course of Gunnery, Field Artillery, and Small-arm course. This officer concludes his course of training on 31st July, 1896.

(13.) Permanent Artillery.

I have found it my duty to consistently advocate, since my arrival, as of paramount importance to the efficiency of the defence of the Colony, the retirement of the two senior officers of the Artillery.

It is much to be regretted that the small sum of money requested by the Officer Commanding the Artillery Forces as a gratuity on retirement has not been provided. The opinion which I have previously expressed as regards the retention of this officer are no less strong now than when I submitted my Annual Reports for 1893 and 1894. I have already reported that I am not prepared to recommend that this officer should be retired without any pecuniary consideration after the twenty-four years' service which he has rendered to the Colony. Such a course would be unfair to the officer in question, and unwise, inasmuch as it would deprive the officers now serving of any hope of receiving some remuneration for their services, when age or the exigencies of military service make their retirement advisable in the interests of the State. This officer, as I have already had occasion to report, has done his utmost to carry out the orders and instructions given him for the reconstruction and reorganization of the Artillery Force generally, and, therefore, he the more merits fair consideration for his past service.

The Officer Commanding the 1st Garrison Division Artillery has now been reported on two separate occasions by a Medical Board as being unfit for further military service, and this Board has further reported that there is no possibility of recovery. This officer is now on sick leave pending his retirement.

A very great improvement has taken place in the Artillery training, and in the technical knowledge of all ranks.

The forts are practically complete in equipment and material; magazines are full, and there is an adequate supply of ammunition in the Artillery Reserve.

The 6-pounder Q.-F. guns for additional mine-field defence have been ordered, and are likely to reach the Colony very shortly. The sites for the emplacements have been selected.

The system of interior economy in the Permanent Artillery, both Field Battery and 1st Garrison Division, is not altogether satisfactory. I recommend that a selected officer should be sent during 1896–97 to Hong Kong and Bombay for six months in order to study the system of artillery regimental organization and administration by being attached to Garrison Artillery at those places.

I have every reason to believe that the change of command in the 1st Garrison Division recently carried out will result in an improved system of regimental interior economy, as well as in the increased efficiency of that Division generally.

A new Battery of 12-pounder B.L. guns is on its way from England, and will be allotted to "A" Battery, Brigade Division, Field Artillery. "B" Battery will then be equipped with the 9-pounder R.M.L. in place of the 16-pounder guns.

An excellent spirit exists in "A" Battery. It has made very great progress in acquiring a knowledge of its duties since 1893, and has recently carried out the annual instructional march to Newcastle and back in a manner very creditable alike to all ranks. This Cadre Permanent Field Battery has proved of the greatest possible service for instructional purposes in the Brigade Division Field Artillery and in the Mounted Services generally.

The number of Artillerymen required for manning the guns in connection with the defence are, as I have already stated in previous reports, insufficient. In order temporarily to meet this serious deficiency a portion of the Naval Forces of the Colony, no longer required for sea-going purposes, have been allotted to a share of the artillery defence. I recommend that the Naval Artillery Volunteers should be converted into Artillery, and should now become Nos. 7 and 8 (Naval) Companies, 2nd Garrison Division, and that for the present they should retain their uniform. It is of paramount importance that no divided authority should exist in the artillery defence, more especially of so important a city as Sydney, that the whole Artillery Force should be trained upon one uniform plan, and that the training should be of a high order. Above all, it is imperative that the officers should be put through a regular course of gunnery, under the Commandant, School of Gunnery, upon a system similar to that of their comrades of the Garrison Artillery.

I venture to think that the time has arrived when the anomaly of a force of Naval Artillery Volunteers, whose duties have now become by the change in the condition of the defence of the Colony those of purely Garrison Artillery, should cease.

(14.) Engineers.

I am, on the whole, satisfied with the condition of the Corps of Engineers, and the manner in which the Engineer Services have been carried out.

The Field Companies are in a satisfactory condition of efficiency.

No. 3 (or Submarine Mining) Company carried out their Annual Field Training very successfully. I consider that the submarine mine defence is in every respect satisfactory, and that all the technical details connected with the mine-fields are complete, and in a high degree of efficiency.

The services of Major Reynolds, R.E., Commanding Engineer, Victorian Military Forces, were placed at my disposal as "Consulting Military Engineer," from the 6th to 13th August, 1895. This officer, at my request, carefully inspected the whole of the Submarine Mine Defence, Defence Works, and Engineer Services generally. His report was in all respects satisfactory. This officer further assisted me with advice in the selection of sites for guns, the completion of the defences of Port Jackson, and in other matters. His advice and assistance were of the utmost value.

I have already stated that without the occasional assistance of an officer of Royal Engineers I should not be prepared to accept the sole responsibility of the Engineer Services. I venture to hope that the appointment of a Consulting or Inspecting Engineer Officer for the whole of Australia and Tasmania may be carried out by mutual agreement between the Colonies, as proposed by the Military Conference of October, 1894.

The electric light instalment of Port Jackson is now practically completed. Permanent telephone communication is also complete. A central magazine at Bradley's Head is about to be erected. The original designs included a site for a Naval Torpedo Depôt, but the Officer Commanding N. S. Wales Naval Forces now proposes an amendment to this arrangement.

Married quarters, at comparatively small cost, are being erected at South and Middle Heads, which will entail a large yearly saving in lodging allowance.

The military maps of the neighbourhood of Sydney approach completion. The plans for the erection of field works covering Sydney on the land side are being prepared, of which a portion will be erected in profile for instructional purposes by the Field Companies during the current year.

A schedule of rates for carrying out minor works and periodical services has been framed, by means of which a strict economy can be insured. A complete inventory of all fixtures in connection with all Government buildings and defence works has been completed. This system will ensure an increased care in the maintenance and charge of Government property.

No. 4 (or Electric) Company is in a satisfactory condition of efficiency; its reconstruction has been most beneficial.

The Officer Commanding No. 4 (Electric) Company has been appointed to the Head-quarter Staff as Director of Military Telegraphs. This officer, who is also head of the Government Electric Telegraph Department, will then be in a position to inspect and advise the General Officer Commanding upon all matters of electric

electric communication, electric light, and telegraph works generally, and will further be responsible for the completion and maintenance of a system of intercommunication during a national emergency.

(15.) Honorable Distinctions.

The "Volunteer Officers' Decoration" having been conferred by Her Majesty the Queen upon certain officers, in accordance with the terms of the Royal Warrant, His Excellency the Governor and Commander-in-Chief presented the same at a State Ceremony of an appropriate kind in the Town Hall, on Monday, December 16th.

It is to be regretted that the "Long Service Medals" and the "Volunteer Long Service Medals" for N.C.Os. and men have not yet been received. The lists of the recipients are prepared.

(16.) Federal Military Conference.

The very important proceedings of the Federal Military Conference held on 24th October, 1894, have been further supplemented by a "Draft Federal Defence Agreement," including the "Powers of an Australian Council of Defence in time of War."

The labours of the above Conference have been still further supplemented by the Intercolonial Military Committee proposed by the Government of New South Wales, which sat on the 29th January, 1896, and following days.

The Report of the Federal Military Conference of October, 1894, together with the Draft Federal Defence Agreement, &c., have been circulated to all the Colonies concerned. The Colonial Defence Committee, London, have been pleased to comment very favourably upon the recommendations of the Military Conference and Federal Scheme generally.

(17.) Intercolonial Committee for framing a Manual of Mounted Drill.

The labours of the Intercolonial Committee held on 30th October, 1894, have resulted in a Manual, which has been printed and which will be published shortly and issued for general use.

(18.) Creation of a Reserve.

In pursuance of the recommendation contained in the Annual Report for 1894, the creation of a Volunteer Reserve from the authorized Civilian Rifles has been effected, and has proved a complete success. In return for certain concessions as regards ammunition, a large proportion of members of the Rifle Clubs, who are passed as physically fit and of a suitable age, have been enrolled as Volunteer Reservists. The enrolled members of the various Rifle Clubs have been affiliated as reservists to the nearest Military Unit, by whom they are now being armed and partially equipped. Sufficient numbers of reservists have been already enrolled to complete the peace establishments of the Cavalry, Mounted Rifles, and Infantry to war strength.

An excellent spirit pervades the Rifle Clubs, who throughout have shown a very praiseworthy and patriotic anxiety to meet the defence requirements.

A reserve for the Medical Staff Corps from the members of the St. John's Ambulance Association is being similarly organised.

It is hoped that hereafter the financial condition of the Colony will admit of a small capitation grant being allowed in order to provide the reservists with uniform. A short course of drill will hereafter be exacted from the reservists.

I now recommend that an Artillery Reserve be formed during the present year, which shall be composed of men who have passed through the ranks of the Permanent or Partially-paid Field or Garrison Artillery. A capitation grant should be given for such a reserve, in order to provide uniform, and a small yearly retaining sum of money should be paid to each man in consideration of attendance at a short course of drill and gunnery. It is impossible to create a reserve of artillerymen from the ranks of the Rifle Clubs in the manner effected for the Cavalry and Infantry. It is essential that the Artillery Reserve should have at least a fair technical knowledge of the duties which they may be called upon to exercise at the shortest possible notice.

(19.) Magazine Small-bore Rifle.

It is of the utmost importance that the recommendation under this head in the Annual Report for 1894, paragraph 24, should be carried out as soon as possible.

I beg to reiterate my recommendation of last year as regards the gradual re-equipment of the Force of the Colony, and as regards the present training of the Forces with the existing rifle.

(20) Head-quarter Staff.

In addition to the routine of Staff duties, the following work has been carried out :—

Assistant Adjutant-General's Department.

Tactical schemes for instruction of troops, Nos. XX to XXIII, and criticisms.

Syllabus for examination of Non-Commissioned Officers and for instruction of recruits of all branches of the Service.

Rules for Military Engineering and for Field Artillery Schools of Instruction.

Rules and Regulations in connection with the formation of a Volunteer Reserve from existing Military Units, and issue of regulations controlling same.

Assistant Quartermaster-General's Department.

A Strategical Scheme for mobilization of the Movable Column, or Offensive-Defensive Force, and subsequent movements, as a test for the whole of the Force, especially of the Administrative Departments, in the detail of their duties on mobilization.

Chapters III and V of the "Defence Scheme of New South Wales."

Veterinary Regulations.

Transport Regulations.

Standing Orders for the Army Service Corps.

Equipment Regulations.

(21.) Defence Scheme of the Colony and Mobilization for War.

The "Defence Scheme of New South Wales," prepared in 1893, and accepted by the New South Wales Government, has received the concurrence of the Colonial Defence Committee, London, who have been pleased to express their complete satisfaction with its principles.

The whole of the detailed arrangements for mobilization for war in accordance with the principles laid down in the Defence Scheme are now complete. A sequence for mobilizing by successive stages of the whole available Military Force in time of war has been prepared.

The troops allotted to the various districts and to fortress defence have been exercised at their posts in accordance with the provisions of the Defence Scheme, and have shown much interest and intelligence in mastering their allotted duties.

3rd SECTION.

RECOMMENDATIONS.

(22.) Appointment of Inspecting Officers of Artillery and Engineers.

I recommend that the proposals made by the Colonial Defence Committee, London, in their remarks of the 21st November, 1895, upon the "Report of the Federal Military Conference of October, 1894" should be adopted, and that an Inspecting Officer of the Royal Artillery and an Inspecting Officer of the Royal Engineers should be jointly appointed by the colonies of Australia and Tasmania. These Officers would have the supervision of the Artillery services and of the Engineer services (including Submarine Mines) of New South Wales no less than the whole of Australia.

This system would save expense to this Colony by obviating the necessity of having an Officer Commanding Artillery Forces. It would further insure the whole of the Artillery of Australia being organized and maintained upon one general plan.

The

The Officer Commanding the Artillery Forces in this Colony, now receiving £1,076 per annum, would then be no longer required. The share of an Inspecting Officer of Artillery might be estimated, approximately, at £500, thus leaving a net gain to the Colony of nearly £600 per annum.

I have already urged in my report of 1893 the necessity of having a thoroughly competent officer of Engineers as Inspecting or Consulting Military Engineer. In consequence of the Government of Victoria having lent the services of Major Reynolds, R.E., for this purpose in 1895, no action has hitherto been necessary on this head, but as that officer's appointment shortly expires it will be advisable that the recommendations of the Colonial-Defence Committee should be adopted, and that the services of an officer of Royal Engineers should be secured to succeed him under joint agreement of the Colonies of Australia and Tasmania. This officer should exercise a general supervision over the Military Works and Engineer Services, insuring by these means a continuity in the system of military defence works throughout Australia.

(23.) Federal Regiment of Artillery.

Upon the appointment of a Federal Military Head or Inspecting Officer, a Federal Regiment should be formed, to which I attach the greatest importance. The efficiency of the Permanent Artillery of the Colony would be, as I have already stated in my Annual Report for 1893, immensely benefited if amalgamated with the Permanent Artillery units of the other Australian Colonies.

An occasional change of quarters for all, and a more constant flow of promotion among the officers, would afford encouragement, and would promote emulation among all ranks. A long sojourn in any place, and a stagnation of promotion invariably destroys all that enthusiasm and zeal without which a military career becomes lifeless to the individual, and useless to the State. The higher training of the officers, and their education for holding the higher military commands and Staff appointments in Australia, could be more easily ensured.

Such a system would promote a higher standard of military knowledge and capacity among the Australian Artillery officers, which would fit them for employment in any military position. It is in the highest degree inexpedient and unwise for Australia to reckon upon being able to obtain the services of Imperial Officers to fill the higher and more responsible military positions. It is equally unreasonable to expect that Australian officers will be found who are equal to the responsibilities of the Staff and of high command unless trained to the latest modern requirements of military science.

The proposed amalgamation of the Artillery units of each Colony might be adopted without any increased expense. The initial difficulty of pay and allowances to officers would at once be simplified if the scale laid down in Royal Warrant for Imperial Officers serving in South Africa were adopted by all Colonies, as has been done by New South Wales. The rates or pay for the men, and the terms of service, would alone require to be fixed.

(24.) Second in Command, Mounted Brigade.

I have already in my Annual Reports for 1893 and 1894 recommended the appointment of an officer from the Imperial Service to be Second in Command of the Mounted Brigade for a term of three years. Having regard to the age of the present veteran Commandant, the services of such an officer to insure sound practical efficiency to the regiments comprising this fine Brigade is absolutely essential. At the present time there is no officer in the Colony suited for such a responsible command, or who has the seniority, experience, or knowledge necessary. At the termination of the three years, it may be confidently assumed that the Imperial Officer could be replaced by an officer selected locally.

(25.) Saddlery.

I again beg to recommend the purchase of 400 saddles for use of the Mounted Troops, which shall be stored for issue when required.

The principles governing the pattern of saddle necessary for Australian Mounted Troops have been fixed, and I urge most strongly that a certain proportion of suitable saddles should be procured yearly until the maximum stated above has been reached.

It is useless to suppose that the Mounted Troops of this Colony are in an efficient condition for service in the field without a saddle of a description suitable for military service. (26.)

(26.) Military Act.

I desire especially to urge the adoption of a Military Act, framed upon the lines of the "Draft Federal Agreement," which has been prepared and provisionally approved.

It is impossible with any regard to any sound military organization to postpone the adoption of such a Bill until a National emergency arises.

The existing Volunteer Act of 1867 and 1878, under which the troops of New South Wales are enrolled, is well known to be obsolete, and is, moreover, inapplicable to a system of Federal Military Defence. It is sufficient to state that by the provisions of the existing Volunteer Act under which the troops of New South Wales serve, it is not possible to move a single soldier beyond the confines of the Colony.

(27.) Public School Cadet Force.

I again recommend that the Cadet Force of the Colony should form a branch of the Military Force of the Colony, and that the General Officer Commanding should undertake the supervision of the drill and the military instruction generally of the Cadet Force, subject to the general requirements of the Educational Department.

The Cadet Corps would, in my opinion, gain in efficiency and in value to the State by this change, since their training and discipline would be placed on a higher plane, by becoming members of an auxiliary branch of the Military Defence Force of the Colony. It would re-act to the distinct advantage of the State if the Cadet Force were considered in the light of a nursery for training officers and men for the existing Military Corps, and ceased to be treated as a quasi-scholastic and separate organization.

(28.) Retirement Scheme.

Instructions have been given for the preparation of a Retirement Scheme for Officers.

I trust that a scheme embodying the principles, and for the reasons stated in my Annual Report for 1894, may be adopted. The remarks on this head are quoted from the Annual Report for 1894, as follows:—

"A recognised scale of retirement exists in other Government Departments of this Colony, and is provided for in all European armies. It is universally recognized that it is not to the true interest of any State to abandon its public servants, be they soldiers or civilians, to want and a poverty-stricken old age, after having extracted from them years of faithful service.

"The pay of the Officers of the Staff and the Permanent Artillery of New South Wales has been fixed at Imperial rates, which it is well known are considered low even in England, where the average value of labour is far lower than in Australia. Officers of the Imperial Service have, moreover, a fixed scale of pension or gratuity on retirement to look forward to, so that their position and prospects are in this respect better pecuniarily than those of their comrades in this Colony.

"The Warrant Officers and Non-commissioned Officers and men in this Colony are not similarly in so unequal a position as the officers, as their pay is relatively higher than that of corresponding ranks in the Imperial Service. It may be assumed, therefore, that in their case the higher rate of pay enables them to save so as to make provision in the event of their discharge or retirement.

"The absence of a system of retirement makes itself seriously felt by all the New South Wales Officers. In several notorious instances it has resulted in serious detriment to the effective service of the State, since it has been found necessary to retain officers upon charitable grounds long after they had ceased to be of any use for military duty, as there were no means of providing for them."

"I recommend, therefore, in the best interests of the State, and with due regard to the future efficiency of the Officers of the Colony, that this most important question should be dealt with as soon as possible."

(29.)

(29.) Capitation Grant and Clothing of Troops.

The existing system of providing the clothing for the Military Force is highly unsatisfactory, and is, moreover, the reverse of economical.

Each Commanding Officer of a Regiment or Corps arranges his own contract as best he may, with the result that Commanding Officers compete one against the other, thereby raising the price of tenders. The clothing supply is of unsatisfactory material, quality, and shape. I recommend that the existing system be abolished, and that the clothing be contracted for and issued by a Central Military Clothing Department, which, under the General Officer Commanding, shall be organized as a portion of the Head-quarter Staff. A large yearly saving would result, and the clothing would be delivered punctually and of a better quality.

The Capitation Grant is in this Colony a Clothing Allowance, and is not, therefore, upon the same footing in this respect as the Capitation Grant of the Volunteer Force in Great Britain, which is intended to cover all expenses with the Volunteer Force.

(30.) Drill-halls, Provision of.

I beg strongly to recommend the erection of a suitable Drill-hall at the Head-quarters of each Military Unit in place of the existing system of hiring a building, often unsuitable, for the office work, for military stores, and for drill purposes with each Half Squadron of Cavalry, Half Company of Mounted Rifles, or Company of Infantry.

By the existing system a yearly sum is allowed to each Half Squadron of Cavalry, Half Company of Mounted Rifles, and Company of Infantry for hire of Orderly-room. This amounts in all to £900 per annum, which, if capitalised at rather more than the Government rate of interest, viz., 3½ per cent., represents the capital sum of £27,000. This sum, divided among the several Orderly-rooms existing in the Country Districts, would represent a capital sum of £570 to each. I recommend that the lump sum of £280, or half that amount, be allowed to each Military Unit for the purpose of building a suitable Drill-hall and Orderly-room combined upon a design, under a contract approved by, and under the supervision of the General Officer Commanding. There would then remain the interest represented by the sum of £450 per annum for the maintenance of these Drill-halls, while the buildings themselves would be the properties of Government.

In each case the land required should be a free grant by the Department of Lands.

I know of no improvement which is likely to add more to the popularity and efficiency of the local or country district troops than the institution of such Drill-halls.

The sum of money required, viz., £14,000 might be allotted from the Loan Vote of £20,000 now available for the erection of Head-quarter Staff offices, which sum is not proposed to be utilized for that purpose. The Loan Vote might be re-submitted to Parliament for re-allotment accordingly.

(31.) Naval Forces.—Recommendations by President Local Defence Committee.

In my position as President of the Local Defence Committee, and as Genera Officer Commanding the Military and Naval Forces of New South Wales, in time of war, I have to submit the following recommendations, viz.:—

(*a*) In clause 13, of this Report, it is recommended that the Naval Artillery Volunteers should now form Nos. 7 and 8 (Naval) Companies of the 2nd Garrison Division. I am of opinion that this Corps should now be trained solely as Artillery men, thus fulfilling the purpose for which they were originally raised. Their maintenance as Naval Artillery under a local Naval Commanding Officer, when their duties are those purely of Artillery under the Artillery officers concerned, presents an anomaly which should now cease.

(*b*) The duties of the Naval Brigade have been clearly defined in the "Defence Scheme of New South Wales." They are held responsible for the Rules of the Examination Anchorages and Traffic Regulations being carried out in time of war at the various fortified harbours, and for the manning of the local Torpedo Boats as a portion of the defence of Port Jackson. Their duties will be of a very arduous and responsible character. The functions of the New South Wales Naval Brigade have

have been restricted solely to the defence of the harbours and entrances of the coast in the manner laid down for them in the Defence Scheme, as the Royal Navy assumes the responsibility of maintaining supremacy at sea.

(*c*) The principle has been laid down in the Defence Scheme, and approved by the Government, that in time of war or National Emergency the whole of the Defence Force of the Colony, both military and naval, shall be placed under one head. I recommend most strongly, as essential to a complete and undivided command in time of war, that this principle should be now adopted in time of peace; and that the Naval Brigade, though forming as at present a distinct branch of the Defence Force, should be placed under the command of the General Officer Commanding.

4TH SECTION.

(32.) Concluding Remarks.

I desire in conclusion to place on record my high appreciation of the consideration and courtesy shown me by the present Government of New South Wales. The task which was imposed upon me by the late Government in the complete re-organization and re-construction of the Military Force has been both delicate and difficult. The condition of the Force upon my arrival was well known to the public from the report of the Royal Commission, dated September, 1892.

The difficulty of making military efficiency, its consequent discipline, its organization, and its machinery generally conform to the political exigencies of a constitutional Government, is well known. I can only say that it has been my aim in all respects, and at all times, to so adapt the military measures for an increased efficiency as to satisfy the policy and political requirements of each of the Governments of New South Wales under which I have served.

Any measure of success that may have attended my efforts is due less to myself than to the zealous hard work, and ready co-operation of my Staff, who, in all their several degrees, have accorded me such loyal assistance as could not have been surpassed.

I cannot speak too highly of the loyal and patriotic spirit which permeates the whole Military Force of the Colony. Every officer, non-commissioned officer, and soldier have combined to carry out the reforms necessary, and have together contributed to bring about the increased efficiency which I have now the satisfaction of bringing to the notice of the Government.

EDWD. T. H. HUTTON,
Major-General and A.D.C.,
Commanding New South Wales Military Forces.

Sydney, 24 January, 1896.

APPENDIX A.

Return showing the Establishment and Actual Strength of the Partially-paid and Volunteer Forces at the end of each year from 1888 to 1895.

Year.	Establishment—all ranks.	Actual strength—all ranks.	Wanting to complete—all ranks.	Percentage short—all ranks.	General remarks.
1888	3,114	2,657	457	14·67	Camp held at Paddington Rifle Range.
1889	4,337	3,973	364	8·39	,, ,, National Park.
1890	4,229	4,062	237	5·81	,, ,, ,,
1891	4,660	4,397	263	5·64	,, ,, Campbelltown.
1892	4,667	4,268	399	8·54	No camp held.
1893	4,418	4,070	348	7·87	,, ,,
1894	4,418	4,169	249	5·63	Short camps held locally.
1895	4,637	4,372	265*	5·71	Short camps held locally.

* A considerable number of men have been discharged in 1895 who were found to be below the required standard of efficiency at the annual field training, which accounts for this slightly increased shortage since 1894.

EDWD. T. H. HUTTON,
Major-General and A.D.C., Commanding N.S.W. Military Forces.

24/1/96.

APPENDIX B.

APPENDIX B.

LIST of Officers, Non-Commissioned Officers, and Men who have passed Schools of Instruction—I, Locally; II, with Imperial Troops; III, those who are undergoing instruction in England and India, 1895.

Schools of Instruction	I. Locally.																										II. Woolwich, Shoeburyness, Canterbury, Hythe.			III. Now in England.			In India.		
	Cavalry.			Field Artillery, Artillery.			School of Engineering.			Infantry.			Equitation.			Medical Staff—First aid.			School of Gunnery—Long course.			School of Gunnery—Short course.			Machine Gun course.											
Regiments, Corps, &c.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.	Officers.	N.-C.O. and Men.	Total.
General and Permanent Staff	...	5	5	...	...	...	...	5	5	...	28	28	...	...	...	...	...	...	...	...	...	...	...	...	1	11	12	...	...	...	...	...	...	...	...	...
Lancers	9	1	10	...	...	...	...	...	...	...	...	...	...	...	...	...	20	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mounted Rifles	10	4	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Artillery—Field	...	1	1	9	...	9	...	...	...	4	...	4	6	3	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Staff and 1st Garrison Division.	...	...	...	...	...	...	...	...	...	9	...	9	5	...	5	...	...	...	4	42	46	3	...	3	...	...	...	...	...	...	1	...	1	...	...	...
2nd Garrison Division	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	8	...	...	...	...	...	...	...	...	...	...	...	...
Engineers	...	...	...	...	...	...	1	...	1	4	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Infantry—1st Regiment	...	...	...	...	...	...	...	...	...	6	...	6	...	...	...	...	...	...	...	...	...	...	...	...	5	3	8	...	...	...	...	...	...	...	...	...
2nd „	...	...	...	...	...	...	...	...	...	1	1	2	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3rd „	...	...	...	...	...	...	...	...	...	8	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4th „	...	...	...	...	...	...	...	...	...	5	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5th „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Army Service Corps	...	...	...	...	...	...	...	...	...	...	1	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Medical Staff Corps	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	19	11	30	9	...	9	1	5	6	37	30	67	14	3	17	...	39	39	4	42	46	11	...	11	6	14	20	...	...	...	1	...	1	...	...	...

Sydney, 24 January, 1896.

EDWD. T. H. HUTTON,
Major-General and A.D.C., Commanding N.S.W. Military Forces.

APPENDIX C.

The following Artillery Gun Practices were carried out during the year :—

Branch of Artillery.	Division.	Ordnance fired.	No. of rounds fired.	Totals.	Total No. of rounds fired by each Division.	Remarks.
Field Artillery	"A" Battery (Permanent) ...	9 pdr. R.M.L. ...	108	108	245	Battery annual course.
	"B" and "C" Batteries (Partially-paid)	16 „ „ ...	120	120		
	"D" (Cadet) Battery.....	9 „ „ ...	17	17		
Garrison Artillery.	*1st Division Permanent.*					
	No. 1 Company	1·5″ Nordenfeldt ...	99		1,435	Testing mountings, annual course of training, and tactical schemes.
		6″ B.L.	10			
		80 pdr. R.M.L.....	38			
				147		
	No. 2 Company	1·5″ Nordenfeldt ...	104			
		80 pdr. R.M.L.....	48			
				152		
	Depôt Company	9·2″ B.L.	6			
		1·5″ Nordenfeldt ...	92			
		80 pdr. R.M.L.....	38			
				136		
	Band	·45″ Nordenfeldt ...	500			
		Maxim	500			
				1,000		
	2nd Division—Partially-paid.					
	No. 3 Company	9·2″ B.L.	1			
		10″ 18-ton R.M.L...	4			
		6″ B.L.	4			
		1·5″ Nordenfeldt ...	56			
		80 pdr. R.M.L. ...	13			
				78		
	No. 4 Company	10″ 25-ton R.M.L...	6		468	Annual course of training and tactical schemes.
		6″ B.L.	3			
		1·5″ Nordenfeldt ...	49			
		80 pdr. R.M.L.....	63			
				121		
	No. 5 (Newcastle) Company ...	1·5″ Nordenfeldt ...	105	105		
	No. 6 (Wollongong-Bulli) Company	6″ B.L.	3			
		80 pdr. R.M.L.....	70			
		1·5″ Nordenfeldt ...	91			
				164		
School of Gunnery.	Long Course, January, 1895	40 pdr. R.B.L.....	10		521	
		1·5″ Nordenfeldt ...	35			
		6″ B.L.	16			
		80 pdr. R.M.L.....	47			
				108		
	„ „ November, 1895	1·5″ Nordenfeldt ...	75			
		80 pdr. R.M.L.....	112			
				187		
	Officers' Course, 2nd Garrison Division.....	1·5″ Nordenfeldt ...	88			
		80 pdr. R.M.L.....	78			
				166		
	Senior Officers' Course	80 pdr. R.M.L.....	60	60		
		Total number of rounds fired ...			2,669	

EDWD. T. H. HUTTON,
Major-General and A.D.C., Commanding N.S.W. Military Forces.

Sydney, 24 January, 1896.

APPENDIX D.

APPENDIX D.

Camps of Instruction.

Schedule of Local Camps of short periods of Continuous Instruction during 1895.

PLACE.	DURATION.		MOUNTED BRIGADE.						ARTILLERY.								ENGINEERS.						INFANTRY.										DEPARTMENTAL.						REMARKS.
			N. S. W. Lancers.			Mounted Rifles.			Brigade Division, Field.				1st Garrison Division.		2nd Garrison Division.		Field Cos.		Sub-marine Mining Co.		Electrical Co.		1st Regt.		2nd Regt.		3rd Regt.		4th Regt.		5th Regt.		Army Service Corps.			Medical Staff Corps.			
	From	To	Officers.	N.C.O. & Men.	Horses.	Officers.	N.C.O. & Men.	Horses.	Officers.	N.C.O. & Men.	Guns.	Horses.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Officers.	N.C.O. & Men.	Horses.	Officers.	N.C.O. & Men.	Horses.	
Paddington	12/ 4/95	15/ 4/95	12	169	181	9	96	104	16	189	14	140	..	..	..	..	5	103	..	..	..	..	22	376	24	371	16	169	..	..	5	95	3	52	12	5	111	2	The Troops were exercised in Camp duties, Regimental and Brigade Drill, and Tactical Schemes, Ceremonial drill and parade movements.
Tenterfield	12/ 4/95	15/ 4/95	..	..	..	1	33	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Chowder	12/ 4/95	21/ 4/95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	68	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Newcastle	12/ 4/95	19/ 4/95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Wollongong	23/ 5/95	25/ 5/95	..	..	..	..	..	..	1	..	..	..	..	..	3	71	..	..	..	..	..	..	..	..	4	49	..	..	..	..	..	..	..	3	..	1	2	..	
Totals	....	....	12	169	181	10	129	138	17	189	14	140	..	..	3	71	5	103	5	84	..	..	22	376	28	420	16	169	..	..	5	95	3	55	12	6	113	2	

EDWD. T. H. HUTTON,
Major-General and A.D.C.,
Commanding N.S.W. Military Forces.

Sydney, 24 January, 1896.

APPENDIX E.

NEW SOUTH WALES MILITARY AND NAVAL FORCES.

ESTABLISHMENTS.

PEACE ESTABLISHMENTS. — Personnel.

Designation of Regiment, &c.	Corps.	Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Artificers.	Trumpeters, Buglers, or Drummers.	Various.	Rank and File.	Total.	Of General or Permanent Staff: Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Clerks.	Various.	Total.
Head Quarter Staff	Executive Branch	...	...	...	...	...	...	...	...	5	5	2	6	5	23
Head Quarter Staff	Military Secretary's Department: A. Finance	...	...	...	...	...	...	...	...	1	...	...	4	1	6
Head Quarter Staff	B. Pay	...	...	...	...	...	...	...	...	1	1	...	2	...	4
Head Quarter Staff	C. Ordnance Store Corps	...	...	...	...	...	...	...	...	4	8	3	3	5	23
	Total Head Quarter Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mounted Brigade	Brigade Staff	1	...	..	...	...	...	...	1	...	...	1	...	...	1
Mounted Brigade — Lancers	Staff	6	...	...	...	...	...	...	6	...	...	...	...	...	...
Mounted Brigade — Lancers	4 Squadrons and Band	24	...	25	24	8	...	312	393	1	1	7	...	...	9
Mounted Brigade — Lancers	*1 Squadron*	*6*	...	*6*	*6*	*2*	...	*74*	*94*	...	...	...	...	...	...
Mounted Brigade — Mounted Rifles	Staff	6	...	...	...	...	...	...	6	1	1	7	...	...	9
Mounted Brigade — Mounted Rifles	4 Companies	24	...	24	24	8	...	296	376	...	...	...	...	...	...
Mounted Brigade — Mounted Rifles	*1 Company*	*6*	...	*6*	*6*	*2*	...	*74*	*94*	...	...	...	...	...	...
	Total Mounted Brigade	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Artillery Forces — Artillery Brigade	Staff, Permanent	3	4	1	...	...	1	1	10	...	...	...	...	...	...
Artillery Forces — Brigade Division, Field Artillery	Do do	4	...	5	...	...	...	1	10	...	...	...	...	...	..
Artillery Forces — Brigade Division, Field Artillery	"A" Battery, Permanent	2	...	2	3	2	...	56	65	...	...	...	...	...	...
Artillery Forces — Brigade Division, Field Artillery	"B" do	5	...	5	2	2	...	86	100	...	...	...	...	...	...
Artillery Forces — Brigade Division, Field Artillery	"C" do	5	...	5	2	2	...	86	100	...	...	...	...	...	..
	Total Brigade Division, Field Artillery	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	Staff and Band	2	3	5	...	...	...	22	32	...	...	...	...	...	...
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	No. 1 Company	5	1	14	..	3	...	101	124	..	...	...	...	..	...
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	No. 2 do	5	1	15	...	3	...	100	124	...	...	...	...	...	...
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	Depôt do	2	...	6	...	3	...	63	74	...	...	...	...	...	...
N.S.W. Artillery, 2nd Garrison Division	Staff and Band	3	...	2	...	...	...	24	29	1	1	2	...	1	5
N.S.W. Artillery, 2nd Garrison Division	No. 3 Company	11	...	8	...	4	...	113	136	...	...	...	...	...	...
N.S.W. Artillery, 2nd Garrison Division	No. 4 do	7	...	8	...	4	...	117	136	...	...	...	...	...	...
N.S.W. Artillery, 2nd Garrison Division	No. 5 do	6	...	6	...	3	...	81	96	...	...	...	...	...	...
N.S.W. Artillery, 2nd Garrison Division	No. 6 do	6	...	7	...	3	...	83	99	...	...	...	...	...	...
	Total Garrison Artillery	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Staff Officer for Engineer Services and Staff, Permanent		...	...	...	...	...	...	...	...	4	3	4	2	1	14
Corps of Engineers	Staff	1	...	...	...	...	...	1	2	...	...	...	...	...	...
Corps of Engineers	Nos. 1 and 2 Field Companies	6	...	8	...	4	...	100	118	...	...	...	...	...	...
Corps of Engineers	No. 3 Company (Subminers), Permanent	1	...	3	...	1	..	21	26	...	...	...	...	...	...
Corps of Engineers	No. 3 do do	4	...	4	...	1	...	70	79	...	...	...	...	...	...
Corps of Engineers	No. 4 Company (Electricians)	5	...	4	...	2	...	68	79	...	...	...	...	...	...
	Total Corps of Engineers	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Infantry Brigade ¶	Staff	..	...	...	...	...	...	..	...	...	...	...	...	...	...
New South Wales Infantry — 1st, 2nd, 3rd, and 4th Regiments	Staff of 4 Battalions	20	...	4	...	...	...	...	24	4	4	38†	...	...	46
New South Wales Infantry — 1st, 2nd, 3rd, and 4th Regiments	*Staff of 1 Battalion* (includes Band)	*5*	...	*2*	...	...	...	...	*7*	*1*	*1*	*9*	...	...	*11*
New South Wales Infantry — 1st, 2nd, 3rd, and 4th Regiments	40 Companies	120	...	160	...	80	...	2,040	2,400	...	...	...	...	...	...
New South Wales Infantry — 1st, 2nd, 3rd, and 4th Regiments	*1 Company*	*3*	...	*4*	...	*2*	...	*51*	*60*	...	...	...	...	...	...
New South Wales Infantry — 1st, 2nd, 3rd, and 4th Regiments	4 Bands	...	...	4	...	...	...	96	100	...	...	...	...	...	...
New South Wales Infantry — 1st, 2nd, 3rd, and 4th Regiments	*1 Band*	...	...	*1*	...	...	...	*24*	*25*	...	...	...	...	...	...
	Total 4 Infantry Regiments	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5th Regiment, Scottish Rifles, Volunteers	Staff and Band	1	1	1	...	...	...	6	9	...	...	1	...	...	1
5th Regiment, Scottish Rifles, Volunteers	*1 Company*	*3*	...	*7*	...	*2*	...	*84*	*96*	...	...	...	...	...	...
5th Regiment, Scottish Rifles, Volunteers	2 Companies	6	...	14	...	4	...	168	192	...	...	..	...	...	...
	Total 1 Infantry Regt. (Volunteer)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Army Service Corps	Staff	1	..	...	...	...	...	...	1	1	...	1	...	1	3
Army Service Corps	Barrack Section, Permanent	...	...	...	...	...	...	...	..	...	...	1	...	1	2
Army Service Corps	1 Company	3	1	14	...	1	...	45‡	64	...	...	...	...	...	...
	Total A.S. Corps	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Medical Staff Corps — Permanent	Brigade Staff	1	...	..	...	...	...	3	4	...	...	...	...	...	...
Medical Staff Corps — Permanent	Medical Staff Corps	...	1	1	...	...	...	5	7	...	...	...	...	...	...
Medical Staff Corps	Regimental Staff	1	...	2	...	...	...	...	3	...	...	1	...	...	1
Medical Staff Corps	No. 1 Company	1	...	3	...	1	...	50	55	...	...	...	...	...	...
Medical Staff Corps	No. 2 do	1	...	3	...	1	...	42	47	...	...	...	...	...	...
Medical Staff Corps — Volunteer Medical Staff		7	...	...	...	...	...	...	7	..	..	...	...	...	...
	Total Medical Staff Corps	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Veterinary Department**		*4*	...	..	...	...	...	...	*4*	...	...	...	...	...	...
Corps of Military Staff Clerks††		...	...	...	...	...	...	...	...	*1*	*5*	*25*	...	...	*31*
Military Chaplains		12	...	...	...	...	...	...	12	...	...	...	...	...	...
Ammunition Column		..	...	...	...	...	...	...	...	...	...	...	...	...	...
Remount Depôt		...	...	...	...	...	...	...	...	...	...	...	...	...	...
Naval Forces		...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL		...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cadets Affiliated to Regiments and Corps		...	...	...	...	...	...	...	...	...	...	...	...	...	...

PEACE ESTABLISHMENTS (continued). — Total Personnel for each Branch; Number of Guns; Horses.

Designation of Regiment, &c.	Corps.	Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Artificers.	Trumpeters, Buglers, or Drummers.	Clerks.	Various.	Rank and File.	Total.	Number of Guns.	Horses: Private.	Public:* Riding.	Public:* Draught.	Pack Animals.
Head Quarter Staff	Executive Branch	(a) 5	(a) 5	(a) 2	...	...	(a) 6	(a) 5	...	23	...	8	...	...	...
Head Quarter Staff	Military Secretary's Department (A., B., C.)	6	9	3	...	...	9	6	...	33	...	...	...	...	...
	Total Head Quarter Staff	11	14	5	...	...	15	11	...	56	...	8	...	...	...
Mounted Brigade	Brigade Staff	1	...	1	...	...	...	...	...	2	...	2	...	...	...
Lancers	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lancers	4 Squadrons and Band	31	1	32	(b) 24	8	...	...	312	408	...	408	...	...	...
Lancers	*1 Squadron*	...	...	...	...	...	...	...	...	...	...	*94*	...	...	...
Mounted Rifles	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mounted Rifles	4 Companies	31	1	31	(b) 24	8	...	..	296	391	...	391	...	...	...
Mounted Rifles	*1 Company*	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Mounted Brigade	63	2	64	48	16	...	...	608	801	...	801	...	...	...
Artillery Brigade	Staff, Permanent	3	4	1	...	...	...	1	1	10	...	4	...	...	...
Brigade Division, Field Artillery	Do do; "A" Battery, Permanent; "B" do; "C" do	...	...	...	...	...	...	...	...	...	.. / 4 / 4 / 4	3 / 2 / 5 / 5	52	...	...
	Total Brigade Division, Field Artillery	16	...	17	7	6	...	...	229	275	12	15	52		...
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	Staff and Band; No. 1 Company; No. 2 do; Depôt do	14	5	40	...	9	...	...	286	354	...	4	...	..	...
N.S.W. Artillery, 2nd Garrison Division	Staff and Band; No. 3 Company; No. 4 do; No. 5 do; No. 6 do	34	1	(c) 33	...	14	...	(c) 1	418	501	...	2	...	...	...
	Total Garrison Artillery	48	6	73	...	23	...	1	704	855	...	6	...	...	...
Staff Officer for Engineer Services and Staff, Permanent		4	3	4	...	...	...	1	2	14	...	1	...	...	...
Corps of Engineers	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Corps of Engineers	Nos. 1 and 2 Field Companies	...	...	...	...	...	...	...	...	...	...	1	6	22	4
Corps of Engineers	No. 3 Company (Subminers), Permanent	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Corps of Engineers	No. 3 do do	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Corps of Engineers	No. 4 Company (Electricians)	...	...	...	...	...	...	...	...	...	...	1	10	4	...
	Total Corps of Engineers	17	...	19	...	8	...	...	260	304	...	2	16	26	4
Infantry Brigade ¶	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1st, 2nd, 3rd, and 4th Regiments	Staff of 4 Battalions … 1 Band	(d) ...	...	...	...	...	...	...	...	...	...	20	...	...	...
	Total 4 Infantry Regiments	144	4	206	...	80	...	...	2,136	2,570	...	20	...	...	...
5th Regiment, Scottish Rifles, Volunteers	Staff and Band; 1 Company; 2 Companies	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	Total 1 Infantry Regt. (Volunteer)	7	1	16	...	4	...	...	174	202	...	1	...	...	...
Army Service Corps	Staff	...	...	...	...	...	...	...	...	...	...	1	...	4	...
Army Service Corps	Barrack Section, Permanent	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Army Service Corps	1 Company	...	...	...	...	...	...	(e)	...	...	...	1	...	...	..
	Total A.S. Corps	5	1	16	...	1	...	2	45	70	...	2	...	4	...
Medical Staff Corps	Brigade Staff … No. 2 do	...	...	...	..	...	...	...	..	...	...	11	19	31	5
Volunteer Medical Staff		...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Medical Staff Corps	§11	1	10	...	2	...	...	100	§124	...	11	19	31	5
Veterinary Department**		*4*	...	...	...	...	...	...	...	*4*	...	...	...	...	...
Corps of Military Staff Clerks††		*1*	*5*	*25*	...	...	...	...	...	*31*	...	...	...	...	...
Military Chaplains		12	...	...	...	...	...	...	...	12	...	..	...	...	...
Ammunition Column		...	...	...	...	...	...	...	...	...	...	...	...	...	...
Remount Depôt		...	...	...	...	...	...	...	...	...	...	...	...	...	...
Naval Forces		32	..	...	...	...	...	542	...	574	..	...	...	...	...
GRAND TOTAL		373	36	431	55	140	15	558	4,259	5,867	12	871	148		9
Cadets Affiliated to Regiments and Corps		28	...	38	...	17	...	...	429	512	...	...	...	...	...

WAR ESTABLISHMENTS. — Personnel; Total Personnel for each Branch.

Designation of Regiment, &c.	Corps.	Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Artificers.	Trumpeters, Buglers, or Drummers.	Various.	Rank and File.	Total.	Total for Branch: Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Artificers.	Trumpeters, Buglers, and Drummers.	Various.	Rank and File.	Total.
Head Quarter Staff	Executive Branch	4	3	1	...	...	3	...	11	4	3	1	...	...	3	...	11
Head Quarter Staff	A. Finance	1	...	...	...	...	5	...	6								
Head Quarter Staff	B. Pay	1	1	...	...	...	2	...	4	6	9	3	...	...	15	...	33
Head Quarter Staff	C. Ordnance Store Corps	4	8	3	...	...	8	...	23								
	Total Head Quarter Staff	...	...	...	...	...	...	...	...	10	12	4	...	...	18		44
Mounted Brigade	Brigade Staff	2	...	1	...	...	...	...	3	2	...	1	...	...	...		3
Lancers	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lancers	4 Squadrons and Band	34	1	42	22	8	...	495	602	34	1	42	22	8	...	495	602
Lancers	*1 Squadron*	*6*	...	*8*	*5*	*2*	...	*113*	*134*	...	...	...	...	...	...	...	...
Mounted Rifles	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mounted Rifles	4 Companies	34	1	41	22	8	...	479	585	34	1	41	22	8	...	479	585
Mounted Rifles	*1 Company*	*6*	...	*8*	*5*	*2*	..	*113*	*134*	...	...	...	...	...	...	...	...
	Total Mounted Brigade	...	...	...	...	...	...	...	...	70	2	84	44	16	...	974	1,190
Artillery Brigade	Staff, Permanent	3	4	1	...	..	1	1	10	3	4	1	...	...	1	1	10
Brigade Division, Field Artillery	Do do	5	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...
Brigade Division, Field Artillery	"A" Battery, Permanent	5	...	9	8	2	...	151	175	...	...	...	...	...	...	...	...
Brigade Division, Field Artillery	"B" do	7	...	9	8	2	...	151	177	...	...	...	...	...	...	...	...
Brigade Division, Field Artillery	"C" do	7	...	9	8	2	...	175	201	...	...	...	...	...	...	...	...
	Total Brigade Division, Field Artillery	...	...	...	...	...	...	...	...	24	...	27	24	6	...	477	558
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	Staff and Band	2	3	5	...	..	...	22	32								
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	No. 1 Company	5	1	14	...	3	...	101	124	14	5	40	...	9	...	286	354
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	No. 2 do	5	1	15	...	3	...	100	124								
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	Depôt do	2	...	6	...	3	...	63	74								
N.S.W. Artillery, 2nd Garrison Division	Staff and Band	3	1	3	...	...	...	...	7								
N.S.W. Artillery, 2nd Garrison Division	No. 3 Company	15	..	8	...	4	...	196	223								
N.S.W. Artillery, 2nd Garrison Division	No. 4 do	12	...	8	...	4	...	221	245	46	1	32	...	18	...	704	801
N.S.W. Artillery, 2nd Garrison Division	No. 5 do	7	...	6	..	3	..	141	157								
N.S.W. Artillery, 2nd Garrison Division	No. 6 do	9	...	7	...	7	...	146	169								
	Total Garrison Artillery	...	...	...	...	...	...	...	...	60	6	72	...	27	...	990	1,155
Staff Officer for Engineer Services and Staff, Permanent		4	3	4	...	...	1	2	14	4	3	4	...	...	1	2	14
Corps of Engineers	Staff	...	...	...	...	...	...	...	...								
Corps of Engineers	Nos. 1 and 2 Field Companies	9	...	8	...	4	...	179	200								
Corps of Engineers	No. 3 Company (Subminers), Permanent	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Corps of Engineers	No. 3 do do	5	...	7	...	2	...	91	105								
Corps of Engineers	No. 4 Company (Electricians)	5	..	4	...	2	.	94	105								
	Total Corps of Engineers									19	...	19	...	8	...	364	410
Infantry Brigade ¶	Staff	...	...	...	...	...	...	...	...	*3*	...	*1*	...	*1*	...	*5*	*10*
1st, 2nd, 3rd, and 4th Regiments	Staff of 4 Battalions	20	4	32	...	...	...	136	192								
1st, 2nd, 3rd, and 4th Regiments	*Staff of 1 Battalion* (includes Band)	*5*	*1*	*9*	...	...	...	*58*	*73*								
1st, 2nd, 3rd, and 4th Regiments	40 Companies	120	...	200	...	80	...	3,600	4,000	...	...	...	...	...	...	...	...
1st, 2nd, 3rd, and 4th Regiments	*1 Company*	*3*	..	*5*	...	*2*	...	*90*	*100*								
1st, 2nd, 3rd, and 4th Regiments	4 Bands	...	...	4	...	...	...	96	100								
1st, 2nd, 3rd, and 4th Regiments	*1 Band*	...	...	*1*	...	...	...	*24*	*25*								
	Total 4 Infantry Regiments	...	...	...	...	...	...	...	...	140	4	236	...	80	...	3,832	4,292
5th Regiment, Scottish Rifles, Volunteers	Staff and Band; 1 Company; 2 Companies	18	1	30	...	12	...	540	601	...	...	..	...	...	...	..	...
	Total 1 Infantry Regt. (Volunteer)	...	...	...	...	...	...	...	...	18	1	30	...	12	..	540	601
Army Service Corps	Staff; Barrack Section, Permanent; 1 Company	6	3	17	16	2	...	128	172	...	...	...	...	...	...	...	...
	Total A.S. Corps									6	3	17	16	2	...	128	172
Medical Staff Corps — Permanent	Brigade Staff	1	...	...	...	...	...	3	4								
Medical Staff Corps — Permanent	Medical Staff Corps	...	1	1	...	...	...	5	7								
Medical Staff Corps	Regimental Staff	1	...	3	...	...	...	...	4	...	...	...	...	...	...	...	...
Medical Staff Corps	No. 1 Company	1	...	3	...	1	...	88	93								
Medical Staff Corps	No. 2 do	1	...	3	...	1	...	71	76								
Volunteer Medical Staff		25	...	...	...	...	...	...	25	...	...	...	...	...	...	...	...
	Total Medical Staff Corps									29‖	1	10	...	2	...	167	209
Veterinary Department**		*6*	...	...	...	...	...	...	*6*	*6*	..	...	...	...	...	...	*6*
Corps of Military Staff Clerks††		*1*	*5*	*25*	...	...	...	...	*31*	*1*	*5*	*25*	...	...	...	...	*31*
Military Chaplains		12	..	...	...	...	...	...	12	12	...	...	...	...	...	...	12
Ammunition Column		...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...
Remount Depôt		...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Naval Forces		...	...	...	...	...	...	...	...	32	...	...	..	...	542	...	574
GRAND TOTAL		...	...	...	...	...	...	...	...	427	36	504	84	153	562	7,475	9,241
Cadets Affiliated to Regiments and Corps		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

WAR ESTABLISHMENTS (continued). — Number of Guns; Horses. REQUIRED TO COMPLETE TO WAR ESTABLISHMENTS.

Designation of Regiment, &c.	Corps.	Number of Guns.	Horses: Private.	Public: Riding.	Public: Draught.	Pack Animals.	Required: Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Artificers.	Trumpeters, Buglers, and Drummers.	Various.	Rank and File.	Total.
Head Quarter Staff	Executive Branch	...	12	...	...	...	...	...	...	...	...	...	...	...
Head Quarter Staff	Military Secretary's Department (A., B., C.)	...	1	...	...	...	...	...	...	...	...	...	...	...
	Total Head Quarter Staff	..	13	...	...	...	...	...	...	...	...	...	...	...
Mounted Brigade	Brigade Staff	...	...	...	...	...	1	...	...	...	...	...	...	1
Lancers	Staff	...	...	...	...	...	...	...	...	...	...	...	...	...
Lancers	4 Squadrons and Band	...	546	...	...	...	3	...	10	...	...	...	183	196
Lancers	*1 Squadron*	...	*125*	...	...	...	...	...	...	...	...	...	...	...
Mounted Rifles	Staff	...	...	...	...	...	...	...	...	..	...	...	...	...
Mounted Rifles	4 Companies	...	528	...	...	...	3	...	10	...	...	...	183	196
Mounted Rifles	*1 Company*	..	*125*	...	...	...	...	...	...	...	...	...	...	...
	Total Mounted Brigade	...	1,074	...	...	...	7	...	20	...	...	...	366	393
Artillery Brigade	Staff, Permanent	...	6	...	...	...	...	...	...	...	...	...	...	...
Brigade Division, Field Artillery	Do do	...	4	3	...	...								
Brigade Division, Field Artillery	"A" Battery, Permanent	6	1	28	110	...	8	...	10	17	...	...	248	283
Brigade Division, Field Artillery	"B" do	6	2	28	110	...								
Brigade Division, Field Artillery	"C" do	6	2	29	128	...								
	Total Brigade Division, Field Artillery	18	9	75	348	...	8	...	10	17	...	...	248	283
N.S.W. Artillery Regiment, 1st Garrison Division, Permanent	Staff and Band … Depôt do	...	4	...	..	...	...	...	...	...	...	...	...	...
N.S.W. Artillery, 2nd Garrison Division	Staff and Band … No. 6 do	...	6	...	...	...	12	...	...	...	4	...	286	302
	Total Garrison Artillery	...	10	...	...	...	12	...	...	...	4	...	286	302
Staff Officer for Engineer Services and Staff, Permanent		...	2	...	...	...	...	..	...	...	...	...	...	...
Corps of Engineers	Staff		...	...	...	...								
Corps of Engineers	Nos. 1 and 2 Field Companies		1	8	20	4								
Corps of Engineers	No. 3 Company (Subminers), Permanent	...	...	...	...	...	2	...	...	...	...	...	104	106
Corps of Engineers	No. 3 do do		...	...	...	...								
Corps of Engineers	No. 4 Company (Electricians)		1	1	10	4								
	Total Corps of Engineers	...	2	9	30	8	2	...	...	...	...	...	104	106
Infantry Brigade ¶	Staff	..	*6*	...	...	...	...	...	...	...	...	...	...	...
1st, 2nd, 3rd, and 4th Regiments	Staff of 4 Battalions		24	8	112	8								
1st, 2nd, 3rd, and 4th Regiments	Staff of 1 Battalion … 1 Band	...	...	...	...	...	..	...	30	...	...	...	1,096	1,726
	Total 4 Infantry Regiments	...	24	8	112	8	...	...	30	...	...	...	1,096	1,726
5th Regiment, Scottish Rifles, Volunteers	Staff and Band; 1 Company; 2 Companies	...	1	...	...	...	11	...	14	...	8	...	366	399
	Total 1 Infantry Regt. (Volunteer)	..	1	...	...	...	11	...	14	...	8	...	366	399
Army Service Corps	Staff; Barrack Section, Permanent; 1 Company	...	7	19	146	...	1	2	1	16	1	...	83	104
	Total A.S. Corps	...	7	19	146	...	1	2	1	16	1	...	83	104
Medical Staff Corps	Brigade Staff … No. 2 do	...	29	25	75	8	...	...	...	..	...	...	67	67
Volunteer Medical Staff		...	...	...	...	...	18	...	...	...	...	...	...	18
	Total Medical Staff Corps		29	25	75	8	18	...	...	...	...	...	67	85
Veterinary Department**		...	...	...	...	...	..	...	...	...	...	...	...	...
Corps of Military Staff Clerks††		...	...	...	...	..	...	...	...	...	...	...	...	...
Military Chaplains		...	..	...	...	...	...	...	...	...	...	...	...	...
Ammunition Column		...	..	...	...	...	...	...	...	...	...	...	...	...
Remount Depôt		...	...	...	...	...	...	...	...	...	...	...	...	...
Naval Forces		...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL		18	1,177	136	711	24	59	2	75	33	13	...	3,216	3,398
Cadets Affiliated to Regiments and Corps		...	...	...	...	..	...	...	...	...	...	...	...	...

* Please see "Tables" regarding when these horses are to be obtained.

† *Includes an extra Staff-Sergeant for the 3rd and 4th Regiments respectively.*

‡ Four of this number are permanently employed as drivers.

§ Exclusive of 14 Medical Officers attached to Regiments and shown in Regimental Tables.

‖ Exclusive of 16 Medical Officers attached to Regiments and shown in Regimental Tables.

¶ The Infantry Brigade Staff will be improvised on mobilization for war, and formed from the Infantry Battalions. The extra Field Officer per Regiment on the Peace Establishment may be utilized for that purpose.

** The details in italics are included in the Regiments and Corps to which these Officers are attached.

†† The details in italics are included in the Departments, Regiments, and Corps with which these clerks are doing duty.

N.B.—The detail of units shown in italics gives the normal establishment of each, upon which the totals are based.

SUMMARY.

SUMMARY.	Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Artificers.	Trumpeters or Buglers.	Clerks and Various.	Rank and File.	Total.
Total Peace Establishment	373	36	431	55	140	573	4,259	5,867
Required to complete to War Establishment	59	2	75	33	13	...	3,216	3,398
	432	38	506	88	153	573	7,475	9,265
Deduct:— Allotted in the above Tables in "Peace," but not in "War." — Head Quarter Staff (a)	1	2	1	...	...	8	......	12
Mounted Brigade (b)	...	...	...	4	...	...	......	4
2nd Garrison Division Artillery (c)	...	...	1	...	...	1	......	2
Infantry (d)	4	...	...	...	...	...	......	4
Army Service Corps (e)	...	...	..	...	...	2	......	2
Total, War Establishment	427	36	504	84	153	562	7,475	9,241

Head Quarters, Sydney,
31st January, 1895.

E. T. H. HUTTON, Major-General, C.B., and A.D.C. to the Queen,
Commanding Military Forces, New South Wales.

APPENDIX F.

Squadron, Battery, and Company Annual Training, 1895-6

Return of Proficients.

Corps	Establishment at 31/12/95	No of Proficients	No of Recruits	No of Men not classified as Proficients	Percentage of Proficients to Establishment	Remarks
N S W Lancers						
Band .	17	14	2	1	82 35	
No 1 Squadron, Sydney Half	47	28	8	11	59 57	
Parramatta Half	47	30		14	63 83	
No 2 ,, Illawarra Half	Pending disbandment.					
W Camden Half	47	30	14	3	63·83	
No 3 ,, Maitland Half	47	26	2	10	55·32	
Singleton Half	47	39		8	82 98	
No 4 ,, Lismore Half	47	34	7	6	72 34	
Casino Half	47	28	4	8	59 57	
Total	346	229				66 18
Mounted Rifles						
No 1 Company, Molong Half	47	32	2	6	68 09	
Bathurst Half	47	41		3	87 23	
No 2 ,, Picton Half	47	31	11	5	65 96	
Camden Half	47	32	5	10	68 09	
No 3 ,, Bega Half	47	42		4	89 36	
Queanbeyan Half	47	35	1	9	74 47	
No 4 ,, Tenterfield Half	47	30	5	8	63 83	
Inverell Half	47	27	11	7	57 45	
Total	376	270				71 81
Brigade Div. Field Artillery						
B Battery .	100	38	36	11	38 00	
C ,, .	100	25	21	23	25 00	
Total	200	63				31 50
2nd Garrison Div Artillery.						
No. 3 Company	136	76	10	29	55 88	
No. 4 ,,	136	62	6	40	45 58	
No 5 ,,	96	71	1	15	73 96	
No. 6 ,,	99	43		36	43 43	
Total	467	252				53 96
Engineers						
No 1 Field Company	59	46	3	12	77 97	
No 2 ,, ,,	58	48	4	6	82 76	
No. 3 P P.S.M M. Company	79	39	5	27	49 37	
No 4 Electric ,,	79	40		28	50 63	
Total	275	173				62 91
1st Infantry Regiment						
A Company (Head-quarters)	60	43		15	71 67	
B ,, ,,	60	35	5	18	58 33	
C ,, ,,	60	49	3	1	81 67	
D ,, ,,	60	44	6	10	73 33	
E ,, (North Sydney)	Recruit Company					
F ,, (Yass)	60	33	11	15	55 00	
G ,, (Wagga)	60	49	9	2	81 67	
H ,, (Albury)..	60	42	10	5	70 00	
I ,, (Young)	60	37	10	11	61 67	
K ,, (Hunter's Hill)	60	46	4	5	76 67	
Total	540	378				70·00

Corps	Establishment at 31/12/95	No of Proficients	No of Recruits	No of Men not classified as Proficients	Percentage of Proficients to Establishment	Remarks
2nd Infantry Regiment.						
A Company (Head quarters)	60	54		5	90 00	
B ,, ,,	60	38	3	16	63 33	
C ,, ,,	60	52	6	2	86 67	
D ,, ,,	60	49		8	81 67	
E ,, Kiama	60	56	4		93 33	
F ,, Ulladulla	60	44	3	11	73 33	
G ,, Goulburn	60	56	2	2	93 33	
H ,, Bowral	60	49	10	1	81 67	
J ,, Ashfield	60	49		11	81 67	
K ,, Cooma	60	50	4	5	83 33	
Total	600	497				82 83
3rd Infantry Regiment						
A Company, Windsor	60	42	9	7	70 00	
B ,, Bathurst	60	47	5	8	78 33	
C ,, Orange	60	42	8	10	70 00	
D ,, Richmond	60	51	3	5	85 00	
E ,, Lithgow	60	49	5	1	81 67	
F ,, Mudgee	60	43	2	11	71 67	
G ,, Wellington .	60	43		12	71 67	
H ,, Parramatta	60	45	8	4	75 00	
J ,, Dubbo	60	40	12	13	66 67	
K ,, Penrith	60	33	13	12	55 00	
Total	6	435				72 50
4th Infantry Regiment						
A Company, Newcastle	60	38	8	7	63 33	
B ,, Maitland	60	42	7	10	70 00	
C ,, Singleton	60	46	5	7	76 67	
D ,, Morpeth	60	42		17	70 00	
E ,, Wallsend	60	53		7	88 33	
F ,, Tamworth	60	28		28	46 67	
G ,, Muswellbrook	60	45	8	6	75 00	
H ,, Lambton	60	40	7	12	66 67	
J ,, Armidale	60	35	8	16	58 33	
K ,, Glen Innes	60	43	3	14	71·67	
Total	600	412				68 66
P.-P. Medical Staff Corps.						
A Company	54	37	2	11	68 52	
B ,,	48	33	4	8	68 75	
Total	102	70				68 63

Head-quarters, Victoria Barracks,
Sydney, 24 January, 1896.

E. T. H. HUTTON,
Major-General and A D C, Commanding N S W Forces.

INDEX.

Sydney: Charles Potter, Government Printer.—1896.

[1s.]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

NAVAL FORCES OF THE COLONY.

(REPORT FOR 1895.)

Printed under No. 1 *Report from Printing Committee*, 21 *May*, 1896.

The Captain Commanding the Naval Forces to The Principal Under Secretary.

Sir, Naval Brigade Office, 15 March, 1896.

I have the honor respectfully to report as follows on the Local Naval Defence Force of the Colony of New South Wales for the year 1895.

As there are no ships, with the exception of the small torpedo-boats "Avernus" and "Acheron," available for utilising the service of this valuable body of men afloat, they have been stationed at different places about the harbour and along the coast, in accordance with the mobilisation scheme lately issued by the Committee for the General Defence of the Colony.

The possibility of a territorial attack being so remote, in consequence of our isolation and to the enormous difficulties which would have to be encountered in the attempt to bring a large body of soldiers here, it follows that the most an enterprising enemy could do would be to prey on our commerce with war-hawks, after the style of the "Alabama" and "Florida," which did so much injury to American commerce during the late civil war.

To meet a contingency of this sort modern war-ships become a pressing necessity. If vessels of this class were procured, the experience lately gained in H.M.C.S. "Wolverene" would be a guarantee that they could be efficiently and economically manned and relied on to prevent our coastal and other coal-laden ships becoming the prey of an enemy, thereby putting him in possession of the very commodity he is certain to be in need of to enable him to continue his predatory warfare outside our range of fortifications.

It is almost unnecessary to add that no disposition of fixed guns or mobile soldiers or Federal schemes of defence would aid us under such conditions. The enemy must come from the sea. He should therefore be met on the sea; if he is not he simply holds the game in his own hands, and in the absence of the vessels of the Royal Navy could do as he thought fit on our extensive seaboard.

It is perhaps not out of place to remark here that the mother country was the victim of all sorts of raids and humiliations, with their accompanying horrors, from maritime attacks in the early days of her history, and that she never became great until she adopted the policy of meeting her enemies on the sea, and in point of fact carried her defence to their frontier.

The Local Naval Forces were inspected by His Excellency the Naval Commander-in-Chief on the Queen's Birthday. The following is the report he made to His Excellency the Acting Governor on the subject.

Sir, "Orlando," at Sydney, 27 May, 1895.

In compliance with your Excellency's request, I have the honor to inform you that I inspected on shore, on the 24th instant, the combined Naval Brigade and Naval Artillery Volunteers, under Captain Francis Hixson.

2. There were four field-guns on naval carriages, two machine-guns, and eight companies of small-arm men with rifles.

3. The general appearance of the men was admirable. Their physique is exceptionally high, and they were clean and neatly dressed.

4. They went through several formal parade movements under Commander Lindeman with a precision which showed that they must have been carefully drilled, and that they had paid great attention to their Instructors' directions.

5. The men were then put through less formal exercises, which they carried out with much intelligence and spirit. The field and machine guns' crews, under Lieut.-Commander Gardner, exhibited most commendable smartness. A party was exercised at cutlass drill by Acting Lieutenant H. L. Hixson, and the performance was in all respect satisfactory.

6. On the whole, I was most favourably impressed by what I saw, and consider that the result of the inspection was highly creditable to both officers and men.

7. I shall send a copy of this letter to the Lords Commissioners of the Admiralty.

I have, &c.,
CYPRIAN A. G. BRIDGE,
Rear-Admiral.

The torpedo-boats "Acheron" and "Avernus" have lately had their boilers lifted and repaired; their hulls have also been overhauled and put to rights. They are now in good order.

Accompanied by Commander Lindeman, I inspected the Newcastle Company of the Naval Brigade, under Lieut.-Commander Gardner, on the 7th November. There was an excellent muster, and the men were clean and sailorlike in appearance. They acquitted themselves well as a Company in the field and also in the casemate battery, where they were stationed in accordance with the before-mentioned scheme lately adopted for the General Defence of the Colony.

The aggregate cost of the Naval Forces for the year amounted to £7,987. This includes money for repairs to the torpedo boats and covers the expense of 574 men.

I have, &c.,
FRANCIS HIXSON,
Captain Commanding N. S. W. Naval Forces.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

OFFICERS OF THE DEFENCE FORCE.

(RETURN RESPECTING.)

Printed under No 14 *Report from Printing Committee*, 20 *August*, 1896.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 4th August, 1896, That there be laid upon the Table of this House a Return showing,—

"1. The names of all Officers of the Defence Force who have attended "Military Schools or been attached to British Regiments in England or "India while in receipt of salaries from the Government of New South "Wales.

"2. The total amount of salary received by each such Officer during the "period he was absent from the Colony learning his profession.

"3. The total sum paid by the Government to or on behalf of each such "Officer during his absence from New South Wales, including travelling "expenses, fees, maintenance, and all other moneys (exclusive of salary) "paid in connection with the military education of such officers."

(Mr. Griffith.)

RETURN of Officers attending Military Schools in England and India.

Date of Departure	Date of Return	Name of Officer	Salary and Allowances while away, paid as an Officer serving in New South Wales	Travelling Allowances in England	Field Allowance while in India	Travelling Allowances while in India	Steamer Fares	Total cost to Government	Remarks
				TO ENGLAND					
			£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	
13 Oct, 1890	3 Feb, 1893	Major Bridges	997 17 3	107 11 0			266 0 0	1,331 8 3	Steamer fares for self and wife
13 ,, 1890	31 Dec, 1891	Major J H A Lee	484 10 6	12 1 6			266 0 0	762 12 0	do do
24 April, 1891	15 Feb, 1893	Major G L Lee	503 6 0	61 13 7			133 0 0	697 19 7	Steamer fare, self only
12 Oct, 1891	19 June, 1893	Major Savage	668 9 10	37 18 9			260 0 0	966 8 7	Steamer fares, self and wife
12 ,, 1891	19 ,, 1893	Capt Morris	668 9 10	37 11 5			260 0 0	966 1 3	do do
19 ,, 1893	19 Feb, 1895	Capt Le Mesurier	559 17 7	23 18 8			520 0 0	1,104 16 3	Steamer fares, self, wife, and two children
31 ,, 1893	12 Nov, 1894	Capt Owen	454 13 4	Nil			Nil	454 13 4	No passage paid
12 ,, 1894	8 Aug, 1896	Capt Kyngdon	798 14 1	34 11 10			140 0 0	973 5 11	Steamer fare, self only
				TO INDIA.					
18 Oct, 1893	15 March, 1894	Lt Col H P Aney	1 9 1 2		75 0 0		60 0 0	264 1 2	Steamer fare, self only
18 ,, 1893	28 April, 1894	Capt Antill	Nil		140 0 0		60 0 0	200 0 0	do do
18 ,, 1893	28 ,, 1894	Capt Hilliard	Nil		140 0 0		60 0 0	200 0 0	do do
7 ,, 1894	29 March, 1895	Col Mackenzie	285 18 0		120 0 0	48 9 1	60 0 0	514 7 1	do do
7 ,, 1894	29 ,, 1895	Capt Dangar	178 14 4		79 0 0	8 16 4	60 0 0	322 10 8	do do
7 ,, 1894	29 ,, 1895	Capt Legge	Nil		141 0 0		60 0 0	201 0 0	do do
1 Jan, 1887	19 June, 1887	Lt Col H P Aney	118 9 6		Nil	Nil	Nil	118 9 6	Lt Col Aney was granted ordinary leave of absence for six months with permission to join Imperial troops in Burmah, he paying all expenses

* Pay only without allowances

CHAS. F. ROBERTS, Colonel,
Military Secretary.

[605 copies—Approximate Cost of Printing (labour and material), £1 16s 3d]

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

REPORT FROM THE SELECT COMMITTEE

ON THE

CASE OF STAFF-SERGEANT W. JIFFKINS;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE

AND

MINUTES OF EVIDENCE.

Printed under No. 15 *Report from Printing Committee,* 27 *August,* 1896.

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

1896.

239—A

[1*s.* 3*d.*]

1896.

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE LEGISLATIVE ASSEMBLY.

VOTES No. 22. TUESDAY, 30 JUNE, 1896.

12. CASE OF STAFF-SERGEANT W. JIFFKINS:—Mr. Waddell moved, pursuant to Notice,—
(1.) That a Select Committee be appointed to inquire into and report upon the case of Staff-Sergeant W. Jiffkins.
(2.) That such Committee consist of Mr. Brunker, Mr. Millen, Mr. Moore, Mr. Watson, Mr. Bavister, Mr. Chanter, Mr. O'Sullivan, Mr. Chapman, and the Mover.
Debate ensued.
Mr. Cotton moved, That this Debate be now adjourned.
Debate ensued.
Question for the adjournment of the Debate put and negatived.
Original Question then put and passed.

VOTES No. 26. WEDNESDAY, 8 JULY, 1896.

4. CASE OF STAFF-SERGEANT W. JIFFKINS:—Mr. Waddell (*by consent*) moved, without Notice, That the Return to an Order, "Suspension of Staff Colour-Sergeant William Jiffkins, Volunteer "Permanent Staff," of Session 1892-3, and the Report, together with Minutes of Proceedings and Evidence of the Select Committee on "Case of Staff-Sergeant W. Jiffkins," of Session 1894, be referred to the Select Committee now sitting on the subject.
Question put and passed.

VOTES No. 27. THURSDAY, 9 JULY, 1896.

3. CASE OF STAFF-SERGEANT W. JIFFKINS:—Mr. Waddell presented a Petition from William Jiffkins of Sydney, stating that a Select Committee had been appointed by the House to inquire into and report upon his dismissal; and praying to be represented by counsel or attorney, or in person, before the said Committee, with the right to call witnesses and to examine and cross-examine all witnesses that may give evidence.
Petition received.
Ordered to be referred to the Committee.

VOTES No. 47. WEDNESDAY, 26 AUGUST, 1896.

4. CASE OF STAFF-SERGEANT W. JIFFKINS:—Mr. Waddell, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before, the Select Committee for whose consideration and report this subject was referred on 30th June, 1896.
Referred by Sessional Order to the Printing Committee.

CONTENTS.

1896.

CASE OF STAFF-SERGEANT W. JIFFKINS.

REPORT.

THE SELECT COMMITTEE of the Legislative Assembly, appointed on 30th June, 1896, "*to inquire into and report upon the case of Staff-Sergeant W. Jiffkins*," and to whom was referred, on 8th July, 1896, the Return to Order, "Suspension of Staff Color-Sergeant William Jiffkins, Volunteer Permanent Staff," of Session 1892–3, and the "Report, together with Minutes of Proceedings, and Evidence of the Select Committee," of Session 1894, on the same case, have agreed to the following Report:—

1. Your Committee having examined the witnesses named in the List* (whose evidence will be found appended hereto), and considered the evidence and papers referred, find,— *See List, p. 5.

(1.) That the facts, as disclosed in the evidence and papers referred to, show that Staff-Sergeant Jiffkins was dismissed from the Service on the uncorroborated statement of Warrant-Officer Barnwell that he saw Jiffkins copying from an official register.

(2.) That the official register referred to had been out of use for a number of years, and that at the time it was lying open in the lavatory, and consequently accessible to all persons in the Department.

(3.) That the evidence shows some doubt exists as to whether the offence had been committed; but, even if it had been, the transgression was a trivial one.

(4.) That for a considerable time prior to the date of dismissal, disagreements between Warrant-Officer Barnwell and Staff-Sergeant Jiffkins had been of frequent occurrence, and that a recommendation by minute had been made by Major-General Richardson for their separation, which minute was not given effect to.

2. In view of all the circumstances, and taking into consideration his long services, your Committee are of opinion that Staff-Sergeant Jiffkins has been harshly treated; and that had the recommendation to separate the two officers been carried out, he would probably not have been dismissed; and they therefore recommend his case to the favourable consideration of the Government.

T. WADDELL,
Chairman.

No. 1 *Committee Room,*
Legislative Assembly,
26th August, 1896.

PROCEEDINGS OF THE COMMITTEE.

WEDNESDAY, 8 *JULY*, 1896.

MEMBERS PRESENT:—

Mr. Chapman, | Mr. O'Sullivan,

Mr. Waddell.

Mr. Waddell called to the Chair.

Entry from Votes and Proceedings, appointing the Committee, *read* by the Clerk.

Ordered,—That Colonel Roberts and Mr. W. Jiffkins be summoned to give evidence next meeting.

[Adjourned till to-morrow at *Twelve* o'clock noon.]

THURSDAY, 9 *JULY*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Chapman, | Mr. Moore.

Entry from Votes and Proceedings referring the Return to Order of Session 1892-3, and the Report from the Select Committee of Session 1894 on this subject, to the Committee, *read* by the Clerk.

Printed copies of the papers referred, before the Committee.

William Jiffkins, sworn and examined.

Witness withdrew.

Colonel Henry Douglas Mackenzie, A.A.G., called in, sworn, and examined.

Witness withdrew.

[Adjourned till Tuesday next at *Twelve* o'clock noon.]

TUESDAY, 14 *JULY*, 1896.

MEMBER PRESENT:—

Mr. Moore.

In the absence of a quorum, the meeting called for this day lapsed.

WEDNESDAY, 15 *JULY*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Moore, | Mr. O'Sullivan.

Entry from Votes and Proceedings, in reference to Petition of William Jiffkins, praying for leave to appear by Counsel or Attorney or in person before the Committee, *read* by the Clerk.

Present:—Mr. William Jiffkins.

William Jiffkins further examined.

[Adjourned till Wednesday next at *Two* o'clock.]

WEDNESDAY, 22 *JULY*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Chanter, | Mr. Moore,

Mr. O'Sullivan.

Present:—Mr. William Jiffkins.

Colonel Charles Fyshe Roberts called in, sworn, and examined.

Witness withdrew.

Colonel Henry Douglas Mackenzie re-called and further examined.

Witness withdrew.

Colonel Charles Fyshe Roberts re-called and further examined.

Witness withdrew.

[Adjourned till Wednesday next at *Two* o'clock.]

WEDNESDAY, 29 *JULY*, 1896.

MEMBERS PRESENT:—

Mr. Chapman, | Mr. Chanter.

In the absence of a quorum, the meeting called for this day lapsed.

THURSDAY, 30 *JULY*, 1896.

MEMBER PRESENT:—

Mr. Waddell.

In the absence of a Quorum the meeting called for this day lapsed.

WEDNESDAY,

WEDNESDAY, 5 *AUGUST*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Chanter, | Mr. Moore,

Mr. O'Sullivan.

Present:—Mr. William Jiffkins.
Colonel Henry Douglas Mackenzie recalled and further examined.
Witness produced two registers in connection with the Reserve Companies.
Witness withdrew.
James Henry Watson called in, sworn, and examined.
Witness withdrew.
Major Charles George Norris called in, sworn, and examined.
Witness withdrew.
Edward Herbert Collis (*Deputy-Comptroller of Prisons*) called in, sworn, and examined.
Witness *produced*, anonymous letter, afterwards admitted by Wm. Jiffkins to have been written by him to the then Comptroller-General of Prisons.
Witness withdrew.
George Lynch Hill called in, sworn, and examined.
Witness withdrew.

[Adjourned till Wednesday next at *Eleven* o'clock.]

WEDNESDAY, 12 *AUGUST*, 1896.

MEMBERS PRESENT:—

None.

In the absence of a Quorum the meeting called for this day lapsed.

THURSDAY, 13 *AUGUST*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Chanter, | Mr. O'Sullivan.

Present:—Mr. William Jiffkins.
William Jiffkins further examined.

[Adjourned till Wednesday next at *Two* o'clock.]

WEDNESDAY, 19 *AUGUST*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Chapman, | Mr. O'Sullivan.

Present:—Mr. William Jiffkins.
William Jiffkins further examined.
Witness withdrew.
Committee deliberated.

[Adjourned till Wednesday next at *Two* o'clock.]

WEDNESDAY, 26 *AUGUST*, 1896.

MEMBERS PRESENT:—

Mr. Waddell in the Chair.

Mr. Chanter, | Mr. O'Sullivan.

Chairman submitted Draft Report.
Same read, amended, and agreed to.
Chairman to report to the House.

LIST OF WITNESSES.

7

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON THE

CASE OF STAFF-SERGEANT W. JIFFKINS.

THURSDAY, 9 *JULY*, 1896.

Present:—

MR. WADDELL, | MR. MOORE,
MR. CHAPMAN.

T. WADDELL, ESQ., IN THE CHAIR.

William Jiffkins called in, sworn, and examined:—

1. *Chairman.*] What is your name? William Jiffkins.
2. Is there anything fresh that you can add to the evidence which you gave before? No. I wish the report of the former Committee to be taken into consideration. There are things in the letter of dismissal from Colonel Roberts which I wish to explain. Colonel Roberts said that much annoyance had been caused by me from time to time. Mr. W. Jiffkins. 9 July, 1896.
3. You wish to give evidence on that? Yes. I want Colonel Roberts to be called and asked if he had evidence that I was the cause of annoyance.
4. Is there any evidence that you want to give besides? No.
5. *Mr. Moore.*] Have you read the evidence which you gave before the Select Committee in 1894? Yes.
6. Is it correct? There is one sentence which I should like to have taken out. In answer to Question No. 27 I am made to say that I was searched in the lavatory. That is wrong; I never said that. I was not searched in the lavatory.
7. Did you say that you had been searched in the lavatory? I do not think I did say so. It is an error.
8. As a fact, you were not searched? No.
9. All the rest of your evidence is correct? Yes.
10. You have read it over carefully? Yes.

Colonel Henry Douglas Mackenzie, A.A.G., called in, sworn, and examined:—

11. *Chairman.*] Have you any papers in connection with this case? I have no papers whatever, except the printed copies of minutes of evidence taken before the Select Committee in 1894, and the correspondence laid on the Table of the Legislative Assembly, in order to be printed, on the 30th of May, 1893. I have been making inquiries this morning, and I cannot find any other papers in connection with Mr. Jiffkins's case except what are contained in the printed correspondence. Colonel H. D. Mackenzie. 9 July, 1896.
12. You have nothing fresh? I know of nothing fresh, and the originals of these papers are in the Colonial Secretary's Office. I am firmly under the impression that all the correspondence that can possibly be got together is contained in the printed papers.
13. Have you any knowledge as to Jiffkins's conduct whilst he was in the service—as to whether he was rather inclined to be quarrelsome? My knowledge is obtained from reports which I received—reports borne out by the defaulter's book—and they show that Mr. Jiffkins had nothing whatever against his moral character, but that he was decidedly of a litigious and quarrelsome nature; that he was so constituted that he was unable to agree with the other warrant and non-commissioned officers with whom he was brought in contact, and that not in one branch of the service but in several.
14. Have you any knowledge beyond what is conveyed in the papers in reference to the inquiry at the time Jiffkins was dismissed;—could you say whether he was allowed on that occasion to offer evidence to rebut the statements which were made against him? At that inquiry, owing to General Richardson's illness,

Colonel

Colonel H. D. MacKenzie. 9 July, 1896.

Colonel Roberts was the Acting Colonel, and he investigated the case in the usual way—that was in the presence of the accused, the accuser, and the witnesses, and after hearing them he asked Jiffkins what he had got to say in reply.

15. Was it well known amongst the officers in the service that Barnwell and Jiffkins were on very bad terms for a long time prior to this complaint, which was the cause of his dismissal? To such an extent that it led to a Court of Inquiry into it.

16. They first quarrelled at Maitland, did they not? I am now speaking from memory, but I believe so.

17. And the papers I think disclose the fact that a recommendation was made by General Richardson that they should be separated? General Richardson ordered that they should all be removed. So far as I can recollect, they were all more or less in fault, and some were removed at their own expense. General Richardson thought, and we all thought, that it would be a very good plan if we could separate them, but unfortunately there was not a single commanding officer willing to receive Jiffkins under his command. I explained this to the General, and he said, "Well, I will not force a non-commissioned officer upon any person; if they cannot agree amongst themselves they must bear the brunt of it. If we cannot separate them, it is to their own interest to agree; if they do not agree somebody will have to go."

18. Has Barnwell got on tolerably well with other officers in the service? I have never heard a complaint against him except in this one case.

19. Jiffkins wishes me to ask what other non-commissioned officers he has not agreed with? I cannot recollect whom everybody was associated with, but I see by the records that he could not get on with the Cavalry; he could not get on with Sergeant Moyens; he could not get on with Warrant Officer Barnwell; anything else that I know is only from the reports made from time to time.

20. Jiffkins wishes me to refer you to the animus shown in the documents on pages 12 and 13;—is it usual to put such things in the report in the absence of the General? This, so far as I can recollect, was worded on the report which was sent in by Sergeant Barnwell. It was written in such a strain that the General was not disposed to receive it as written, and pointed out that on the face of it it appeared to show animus. The whole of that was submitted to the Court of Inquiry; then the Court came to a conclusion, which will be found recorded on page 15, which finding was approved by the General.

21. When a warrant officer is deemed to misconceive his position, and is supposed to be accused, is it usual, under any circumstances, for a man to be kept serving under him afterwards? Certainly; because the whole thing depended on what the Court of Inquiry found. We could not condemn a man unheard.

22. Jiffkins wishes to refer you to page 10 in reference to the Court's decision? So far as I can see, the Board appears to have made two separate reports—one is in reference to Sergeants Moyens and Jiffkins, and the other is on a question between Jiffkins and Barnwell.

23. Is it not an established system throughout the British Army that where two non-commissioned officers cannot agree they shall be separated? Certainly it is, and it would have been done in this case if Mr. Jiffkins had been a *persona grata* to any other commanding officer. As a matter of fact Moyens and Barnwell, after the punishment which they received, led a different life, but I am sorry to say in the case of Jiffkins it did not quite obtain.

24. How came Colonel Roberts to hold back Major-General Richardson's minute for twenty-five days? The letter was before Colonel Roberts when he investigated the case; that I do know for a fact. If there was a delay of twenty-five days it must have been owing to the illness of the General at Mittagong. The General's minute on the letter was before Colonel Roberts when he investigated the case and decided to report to the Minister.

25. *Mr. Moore.*] Were you present at the inquiry held by Colonel Roberts? I was.

26. Jiffkins was asked, "Were you prevented from making a statement"? He says, "I was; I was prevented from doing so, and I was ordered away." I should like your version of it? It is utterly incorrect. Colonel Roberts investigated the case, and in doing so exhibited a great deal of patience. At last Jiffkins allowed his tongue to run away with him, and Colonel Roberts said, "You are wasting time if you have nothing further to say." I was present, also Captain Bouverie, Sergeant Molloy, and, I am almost positive, Mr. Tideswell.

27. At all events, Jiffkins was afforded every opportunity to state his case? Yes.

28. *Chairman.*] Jiffkins says that it states in the same paragraph that evidence being adduced, Colonel Roberts amended the charge in Jiffkins's presence? Yes. Colonel Roberts said, "We will not make it quite so serious as this," and he altered the charge to tampering with records. It was worded rather more seriously than was necessary, and Colonel Roberts toned it down. It was not an alteration in principle, only in degree.

29. Is the Commanding Officer supposed to inquire into a charge and to alter it—is it usual? It is usual; it is done every day. If the charge is too serious or too light, he can alter it at his discretion.

30. *Mr. Chapman.*] The alteration was made not to make it a different charge, but simply because the Commandant thought he would make it a lighter one? To modify it in some way.

WEDNESDAY, 15 *JULY*, 1896.

Present:—

MR. MOORE, | MR. O'SULLIVAN.

T. WADDELL, ESQ., IN THE CHAIR.

Mr. W. Jiffkins appeared in person on his own behalf.

William Jiffkins recalled and further examined:—

Mr. W. Jiffkins. 15 July, 1896.

31. *Chairman.*] Have you any statement to make in addition to the evidence which you have already given? Yes. I wish to refer the Committee to the evidence taken before the previous Select Committee. In Question No. 23 I stated that Warrant Officer Barnwell charged me with making a false statement. In answer to Question 57, I said, "It was Colonel Roberts that made the charge of taking notes from the register." In answer to Question 62 it will be seen that I stated Colonel Roberts said, "You are

remanded

Mr. W. Jiffkins. 15 July, 1896.

remanded until the return of the General, to a higher authority." I now want to refer to Colonel Roberts's statement at page 26 of the papers. In his memo. to the General Officer Commanding, Colonel Roberts wrote, "He appeared again before me, to the best of my recollection, for a grave case of tampering with official records (as the papers are at the Military Secretary's Office, I am stating to the best of my recollection). His case was forwarded to you." As he states in that letter, the matter was forwarded to the General to deal with. What I want to point out is that in the first instance I was charged with making a false statement, and on that charge I was remanded until the return of General Richardson, or higher authority. The false statement was that Barnwell said he saw me taking notes from an old register. I denied this.

32. Was your denial the false statement? Yes. When I was brought before Colonel Roberts he amended the charge to making a false statement and taking notes from an official record. Since that remand I have never been heard.

33. The case was then heard behind your back? Yes; behind my back it was submitted to the Colonial Secretary, and I was dismissed.

34. Did you get any notice to attend after being remanded? Not until I was told I was dismissed by the General.

35. You gave no evidence except on the first charge? I did give evidence on the first charge that I made a false statement.

36. Then you say the charge was amended? Yes; unknown to me it was amended.

37. And it was then referred to General Richardson? It should have been; but instead of that it was referred to the Colonial Secretary.

38. Did he deal with it, and not General Richardson? Yes.

39. You had no opportunity of offering evidence on the second part of the charge of taking notes from a register? I had no opportunity.

40. Has any statement been made by any of the witnesses that you had an opportunity of being heard on that second charge? Yes. Colonel Roberts says that I was given a full opportunity; but that is contradicted by Barnwell. At page 23, in a memo. by Captain Bouverie, there is the following sentence:—"I have read the General Officer Commanding's remark, and he said he has learnt that there has been an addition made to the crime against him since he was before Colonel Roberts."

41. Did you want to have an opportunity of seeing the General? Yes; and I was prevented from seeing him. What I have just quoted shows that I was not aware of an addition having been made to my crime until a month afterwards.

42. *Mr. Moore.*] That addition being the alleged tampering with official records? Yes.

43. At page 26 there is a minute by the General, "He again committed himself on the 28th January, 1892, in making a false statement, and whilst in the presence of the Acting Commandant evidence was produced of his having tampered with official records, which was then and there inserted on the crime report." It appears that that addition was made in your presence whilst being dealt with for making a false statement;—do you now swear positively that you did not know anything of this addition being made to the charge until after the proceedings had closed? Until after the proceedings closed I knew nothing about it.

44. He says this additional charge was then and there inserted, presumably in your presence? I have not denied that it was inserted, but I deny having been examined on it.

45. Were you aware of it? I am aware of it now. I was not at the time aware that that was inserted. I learnt after I was remanded that there was an addition to it.

46. *Mr. O'Sullivan.*] Were you given an opportunity to deny that additional charge? No. I denied telling the lie; that was that I did not take the notes from the official record.

47. *Chairman.*] Colonel Mackenzie states that, after amending the charge in your presence, it was then and there investigated;—is that correct? The latter part of the charge was not investigated. The only part of the charge investigated was in reference to my telling a lie. Barnwell said he saw me taking notes, and I said he did not.

48. Barnwell said he saw you taking notes, and you said you did not. That was investigating the charge of taking notes from the register;—how do you now say that it was not investigated? I was taken before Colonel Roberts for making a false statement. In describing the false statement it was asserted that I was taking notes from this official record.

49. *Mr. Moore.*] I wish to follow out your positive statement that this additional charge was made before Colonel Roberts, that you were not informed of it, and that you did not know anything of it until afterwards, and that, therefore, you had no opportunity of replying to it? Yes; I had no opportunity of replying to it.

50. When Colonel Roberts was examined before the Select Committee, on 3rd May, 1894, Mr. McCourt asked the following Question:—"In one of his letters, on p. 27 of the printed papers, Sergeant Jiffkins says, 'On 2nd April, 1892, Sergeant Jiffkins was informed unofficially that the charge upon which he had last been dealt with had been added to by charges of taking notes from a register, and furnishing information outside to someone. Sergeant Jiffkins has never been officially informed that any such charges were against him, and if they exist he has never been given an opportunity of replying thereto.' Is that true, or is it not true?" Colonel Roberts replied, "It is not true. The charge itself disproves the statement. The charge is entered in these words, 'making a false statement, and taking notes from an official register.' Then it is not true that he had not an opportunity of defending himself? I do not know whether he had before the General afterwards. But before you? He had every opportunity of clearing himself from the charge of taking notes from the official register. I added that charge after I had heard the evidence of Captain Bouverie that, in addition to making a false statement, he had done this." Further on, Question 358, there is the following question and answer:—"One of the main points in Sergeant Jiffkins's case was that he had not a chance to clear himself. That he was dismissed on a charge of which he had no knowledge until after he received notice of dismissal. Are you clear upon the point that he had ample opportunity of clearing himself if he wished? When I altered the charge I read it to him; the whole thing was gone into. He said all he could say for himself with regard to taking notes, and the other witnesses proved as much as they could against him. It was clear to my mind that he had been at the book which he really had no right to." Is that statement of Colonel Roberts true or false? It is false.

51. You declare on your oath that that statement is false? Yes; and there is no evidence to corroborate it.

Mr. W. Jiffkins. 15 July, 1896.

52. *Chairman.*] You say Barnwell only gave evidence as to your taking notes from this register? Yes.
53. Have you read the following letter by Molloy?—

Sir, Metropolitan, Western, and Southern Reserves Office, Sydney, 25 February, 1892.

About 11·40 a.m. on the 22nd instant I was called by Captain Bouverie into the lavatory, where a register was lying open. Captain Bouverie asked me how I left the register. I told him I was looking at the last number in the book, with reference to some correspondence. The book was then open at the centre. Warrant-Officer Barnwell then said, "I saw Sergeant Jiffkins taking notes." Captain Bouverie asked Jiffkins what he was doing at the registers, and he said, "Nothing." Warrant-Officer Barnwell again reiterated his former charge, and said, "I saw him put the paper in his pocket. Captain Bouverie asked him if he would show him the papers he had in his pocket. After a little hesitation he produced the paper, with the following note upon it :—'22/4/89. Mr. Barnwell said, *re*—&c.'" That is the paper.

L. MOLLOY,
Quartermaster-Sergeant.

That appears to be a statement by Molloy on the subject? That was on the 25th February, the day I was remanded.
54. *Mr. O'Sullivan.*] Did you write those notes on the paper? I might have written them a week or a month before, but not at that time.
55. Did you go to the book at all? Only as I have stated. I found this old book on the bath-stand. Having to go into the lavatory with another book, and seeing this old book out of its place, I closed it up and put it in a pigeon-hole. Then Barnwell popped in and accused me of taking notes. When we were in the wash-house Barnwell said that the notes were in my pocket. I pulled out everything out of my pocket—a knife, tram-tickets, matches, a little bit of pencil, and a little bit of paper, on which was written, "22/4/89. Mr. Barnwell said, *re*, &c." I handed that to Captain Bouverie. He handed the paper back again, and I put it into my pocket. Captain Bouverie then said, "Take out all the papers you have in your possession," and I did so.
56. What made you write those figures on the paper at any time? I could not say what the figures referred to. The Committee looked at the book to see if they were in it, but they were not.
57. Do you contend that although you wrote those figures they had no connection with the book? No, they had not.
58. *Mr. Moore.*] Who was present at the inquiry before Colonel Roberts? Colonel Roberts, Colonel Mackenzie, Captain Bouverie, Warrant-Officer Tideswell, Warrant-Officer Barnwell, Molloy, and myself.
59. *Mr. O'Sullivan.*] You have stated several times that you believed that the fact of an anonymous letter having been sent to the Principal Under Secretary has been an impediment in the way of your claiming justice? Yes.
60. Have you stated that you have been led to believe they supposed you were the writer of that letter? Yes; that I wrote the address on the envelope which contained the letter.
61. Did you write that letter? No.
62. Did you address the envelope which covered the letter? No.
63. Did you inspire it in any shape or form, directly or indirectly? Neither directly nor indirectly.
64. Did you know that that letter was being sent by anybody? Not until I was accused of it.
65. *Chairman.*] Was the substance of that letter made known to you afterwards? I have got it from several persons. I have never seen it, only the envelope.
66. *Mr. O'Sullivan.*] Did you ever make a declaration that you were not the author of the letter, or the writer of the address on the envelope? I made two affidavits to that effect, and I sent them to the Principal Under Secretary.
67. Do they believe now that you were the author? I understand they do not believe I am the author of it.

WEDNESDAY, 22 JULY, 1896.

Present:—

MR. CHANTER, | MR. MOORE,
MR. O'SULLIVAN.

T. WADDELL, ESQ., IN THE CHAIR.

Mr. W. Jiffkins appeared in person on his own behalf.

Colonel Charles Fysshe Roberts called in, sworn, and examined:—

Colonel C. F. Roberts. 22 July, 1896.

68. *Chairman.*] Do you remember the circumstances under which Mr. Jiffkins was dismissed? Yes; I have the papers before me.
69. Was the book which he was charged with copying entries from an old book containing matter that could be of no interest to anyone, or did it contain any matter that it was necessary to keep private? I did not see the book myself. According to the report it was one of the ledgers then kept, I think, by the Reserves.
70. Have you any knowledge of any circumstance that would lead you to think that Mr. Jiffkins had an improper motive in trying to get any information out of that book? No; all I know is that he was doing a thing contrary to regulations. No non-commissioned officer is supposed to take an extract from a register unless he is directed to do so.
71. Where that rule was transgressed, as was alleged against Jiffkins, is it usual to follow it with such a severe course as dismissal;—are not cases of that kind treated in a more lenient way? It depends entirely upon what was the man's previous conduct.
72. *Mr. Jiffkins.*] Who made the charge of making a false statement and taking notes from this particular record? Captain Bouverie, as the Adjutant in charge of that department.
73. Did Warrant-Officer Barnwell make that charge? Warrant-Officer Barnwell and another sergeant were brought up as witnesses against you as having seen you use the register.
74. In Question 148 in the evidence before the Select Committee it is stated that Barnwell made both charges;—is that true? Captain Bouverie, as the Adjutant, brought forward these charges. This charge was brought by the Adjutant for a crime or an act committed in Phillip-street. Jiffkins was brought before me at Dawes' Battery, and his case was reported to me by Captain Bouverie, who brought the charges.
75. *Mr. Chanter.*] Is it part of the regulations that charges of this character should be made through some commissioned officer? Yes.
76. A charge could not be made direct by a non-commissioned officer? No; Barnwell could not come to me and make any charge. He would be sent back to make it through the proper channel. 77.

Colonel C. F. Roberts. 22 July, 1896.

77. This charge was made by Captain Bouverie, and what caused you to amend the charge by adding to it? The first charge was for making a false statement that he had not touched these books. When it went further on it appeared from the evidence that Jiffkins was taking notes from a register, which only aggravated the crime—that was why it was altered. You can alter a crime as much as you like according to the evidence which comes before you. The evidence disclosed this fact.
78. *Chairman.*] You amended the charge? Yes, I added "And taking notes from an official register."
79. Is that the usual way, when apparently a fresh charge comes up, to amend the charge? Yes, certainly.
80. Was your information received from Captain Bouverie? Yes, and from the evidence brought before me.
81. Did the evidence brought before you emanate from Warrant-Officer Barnwell only? And Molloy. No man had more rope in trying to clear himself than Jiffkins had.
82. *Mr. Chanter.*] Did you act as judge? Yes, the case was brought before me, and I had to settle it one way or the other.
83. *Mr. Jiffkins.*] Was the charge proven only on the evidence of Barnwell? Molloy gave evidence also. The evidence brought before me by these non-commissioned officers satisfied me that Jiffkins had been taking notes.
84. *Chairman.*] Did Molloy state that he saw Jiffkins taking the notes, or did he only give secondary evidence? As well as I remember, he gave me to understand that he was aware of the fact that Jiffkins had taken the notes.
85. He did not state that he had seen it, but that he was aware from some other facts that Jiffkins had taken notes? Yes; because he had left the book in a certain position, and he found it altered, and when they searched this man they found a piece of paper with notes on it.
86. Was there any other evidence by Molloy except that? Not that I remember; it is four years ago, and it is hard to remember.
87. Were you annoyed by any action that Jiffkins had taken? Not at all. If a man chooses to do anything that is wrong it does not annoy me. It is more likely to be an annoyance to him.
88. *Mr. O'Sullivan.*] Apart from this charge of tampering with records, what character did Sergeant Jiffkins bear in the force? Decidedly an indifferent one, if not to say bad. He was perpetually being complained of. He would not agree with anybody.
89. Was it more a matter of discontent on his part? More insubordination than anything else—an insubordinate tendency. If necessary I can produce to this Committee a copy of a letter which was sent to me two years after I adjudicated on this very matter, to show exactly the class of man he is.
90. *Chairman.*] Do you produce that letter now? Yes; I am only producing it to show that my judgment was not far wrong two years previously. The letter is as follows:—

[Confidential.]

Dear Roberts, Department of Prisons, Comptroller-General's Office, Sydney, 22 May, 1894.

Wm. Jiffkins served as a warder from the 8th June, 1876, until the 14th March, 1882, when he narrowly escaped dismissal for writing an anonymous letter to the Comptroller-General (my predecessor). He was given the option of resigning. His resignation was accepted on 14th March, 1882. His previously clean defaulter-sheet saved him from dismissal.

Believe me, &c.,

Colonel Roberts, C.M.G. GEORGE MILLER.

91. *Mr. Jiffkins.*] I wish to refer to my evidence in Question 62 before the Select Committee;—I asked Colonel Roberts if he was annoyed at my writing to the General? I said I was not annoyed.
92. Is it in accordance with military custom for a prisoner to be cautioned by saying, "This is your last chance," in front of the prosecutor, who is known to be a deadly enemy of that man? The officer trying the case could say anything he liked before anybody. It is natural to caution a man as you were cautioned, that it would be his last chance, in order to put him on his guard.
93. *Chairman.*] Did you make that statement? It is military custom. If you refer to the defaulters' sheet in these papers you will find that General Richardson did the same thing.
94. Is it military custom? Yes; if you do not want to punish a man too severely, and you want to warn him that he is getting to the end of his tether, you caution him.
95. *Mr. Jiffkins.*] Were you aware that Barnwell was my bitter enemy at that time? I was not. It would have made very little difference. I would have to deal with you according to the nature of the crime.
96. *Chairman.*] If you had been aware that Barnwell was Jiffkins' bitter enemy, would you, on his testimony, mainly recommend Sergeant Jiffkins' dismissal? Possibly I might not. I will not say that I would not. It all depends on the offence.
97. *Mr. Chanter.*] Is Barnwell still in the force? I do not know. I have been Military Secretary for four years, and I do not know who have been employed as sergeants.
98. *Chairman.*] Were you aware that Barnwell had been guilty of any improper conduct himself prior to this trial that would warrant you in not placing confidence in his testimony? I was not aware. I was only acting for a month or six weeks while General Richardson was away. All the previous acts were unknown to me.
99. Had Mr. Jiffkins a fair opportunity at the trial of bringing out the character of his accuser if he wished? Yes; a fair opportunity to bring any distinct charge or anything that would shake his evidence sufficiently to make me suspect it.
100. Is that always allowed to a person charged? Yes, and inquiry can be made at once. He went on accusing everybody—the Adjutant-General and all sorts of people.
101. *Mr. Chanter.*] At your military inquiries is it usual to take evidence on oath? Not in a case like this. If a man is to be tried the evidence has to be taken on oath under the regulations. The officer commanding the forces has the power on his own responsibility to dismiss a man, especially when he is on the permanent staff.
102. You arrive at a decision in cases of this kind on statements made by various officers? Yes; if any man gives false evidence he can be immediately made a prisoner and punished.
103. *Mr. Jiffkins.*] Do you know of any case in your military experience where a non-commissioned officer tendered an apology for an offence and he was not dismissed, but only reprimanded? I have known of a man expressing regret that he had committed a crime. That is very often taken into consideration, and he is leniently dealt with.
104. *Chairman.*] Did you know of any favouritism being shown to Barnwell? No. Jiffkins has tried to bring me in as having previous knowledge, which is not the case. General Richardson was Commandant

before

Colonel C.F. Roberts. 22 July, 1896.

before this case of Jiffkins. Those cases of Barnwell's and Molloy's took place under General Richardson's *régime*, and I cannot speak about them.

105. *Mr. Jiffkins.*] If you knew that it had been recommended that I should be removed from Barnwell, would you have taken this serious step? It would not have weighed the least bit on my mind if you committed a crime whether you were to be removed or not—that would have no effect on me. My business was to deal with what you had done, and not what was done previously.

106. *Chairman.*] If two men are in the habit of quarrelling is it the practice to separate them? It would be advisable to do so, but it would depend upon the exigencies of the Service.

107. Did the Principal Under Secretary say anything to you with reference to an anonymous letter in connection with Jiffkins? I do not remember anything of that kind.

108. *Mr. Jiffkins.*] Did anyone say they took a piece of paper out of my pocket? I think it was Molloy who said a piece of paper was produced out of your pocket.

109. Is it a fact that anyone said they took a piece of paper out of my pocket? All I know is that it was proved to me a piece of paper was obtained from you on which a mark was made.

110. *Chairman.*] Is there any rule or regulation preventing a man in Jiffkins' position from having any or ordinary letters or papers in his possession when on duty? No; the piece of paper referred to was a piece of cartridge paper, which, as far as I remember, was similar to what was in the room.

111. *Mr. Chanter.*] Are there any records of the original inquiry into this case? No. As I just now said, unless a man is going to be tried by court-martial, the evidence would not be taken on oath. If a man is going to be punished severely, the man has to write down all he is going to say in the case, and it appears in the returns.

112. Is everything in the inquiry disclosed in these papers? Yes; there might be some cross-questioning that does not appear.

113. The details of the evidence are not kept or disclosed as records? No.

114. Is this particular piece of paper in existence? I cannot say.

115. Does your memory serve you as to what it was like? As far as I recollect it was a little three-cornered bit of paper.

116. In a letter by Quartermaster-Sergeant Molloy, dated 25th February, 1892, he says the only note upon it was "22/4/89";—is it to be presumed that that was all that was on the paper? I suppose that was all.

117. If that was all that was upon the paper would that be of any value to anybody? You cannot say what that refers to. It might be some date they were referring to. He might have been obtaining any date from the book.

118. *Mr. Jiffkins.*] Was not the book referred to produced at the inquiry, and no entry found in the book of that date? I do not remember.

Colonel Henry Douglas Mackenzie recalled and further examined:—

Colonel H. D. Mackenzie. 22 July, 1896.

119. *Chairman.*] Do you remember whether the book that Jiffkins was charged with taking an entry out of was produced when the case was being inquired into, and found not to contain any entry similar to the entry he had on the piece of paper? I do not remember.

120. If such had been the case, would you be likely to be made aware of it? Yes; I was present, and all I remember was some piece of paper being produced. Whether or not the book was produced I do not know.

121. Do you remember the book being produced on any occasion when you were present, and no such entry being found? I cannot remember whether the book was produced on any occasion.

122. Can you say anything of your own knowledge with regard to Sergeant Jiffkins' character prior to this charge? Sergeant Jiffkins' character throughout has been perfectly consistent. We have never had anything against him morally, but he has been unable to agree with those he has been brought into contact with—especially the other members of the staff. I was asked at the last meeting of the Committee to look up certain correspondence which I admit I had forgotten all about. By your direction I traced the records, and I am able now to produce some correspondence which before was missing. The following is the correspondence I refer to:—

Memorandum from the A.A.-General to Lieut.-Col. Eden, Commanding M.W. & S.D.R.

28 December, 1887.

SERGEANT JIFFKINS has been ordered this day to report himself to you for thorough instruction in drill and office work. A report of the N.C.O.'s qualifications to be made at a reasonably early date, with a view of its being determined whether his services should be retained or not.

By order,
H.D.M., A.A.-G.

The W.O. with whom this N.C.O. acts to report in accordance with A.A.-G. memo. above.—T.M.E., Lieut.-Col., 13/3/88. Mr. Tuite,—To state as to clerkly efficiency of S.-S. Jiffkins.—T.M.E., Lieut.-Col., 19/3/88.

[Confidential or otherwise as needed.]

Memorandum to the Asst. Adjt.-General.

WITH reference to the item overleaf, and the attached documents, I may point out that since the reduction of the Reserve Corps, coupled with the contemplated further disbandment of other corps of this branch of the Defence Force, I cannot see any definite need for the services of this N.C. officer. He is an indifferent instructor, though, as set forth by his friends, a dependable person. Were I required to secure instructors on a fresh departure I should hesitate to select S.-S. Jiffkins. The reduction from Reserve Corps to R. Rifle Companies suggests an economy that should eliminate all but those specially adapted to the new organisation proposed. This N.C.O. I do not regard as one suitable to the scheme. I understand I may be looked upon as responsible for as regards its success. He may have military proclivities, but they have not, to my knowledge, demonstrated any sign of adaptability to R. Rifle Companies.

T.M.E., Lieut.-Col., 18/5/88.

In the event of any after consequence of this I may be entitled to a copy.

To Colonel Eden, S. District Reserves, Sydney, 19 March, 1888.

In accordance with your instructions, I accompanied Staff-Sergeant Jiffkins to Campbelltown, and saw him drill that corps on Friday evening, and beg to report that I consider him an average instructor. He seems fairly well acquainted with his drill; he is inclined somewhat to proziness in detail, and is apt at times to confound old drill with the new. His commands are well pitched, and he seems pretty sharp in detecting errors.

I am, &c.,
F. P. LIGGINS, W.O.
Memo.

Memo. from Warrant-Officer Tuite to Lieut.-Col. Eden.

Colonel H. D. Mackenzie. 22 July, 1896.

Sir, Sydney, 21 March, 1888.

With reference to Staff-Sergeant Jiffkins' clerkly efficiency, I am of opinion that he is quite well able to do the work which usually falls in the way of a staff-sergeant, if he will only attend to it. He is, however, very careless and inattentive, and takes anything said to him on the matter in a very bad spirit. As an instance, I gave him a para. of orders to copy, and two railway passes to fill in of three or four names. In the order he left out one; he entered the wrong year on one of the passes, and the wrong month on another. When I spoke to him on the matter he said, "Well, its only a mistake"; "Anyone can make a mistake"; "I wonder how many mistakes have been made this year"; "I was only eleven months out." This latter remark had reference to the wrong month on the pass. The above is only one instance out of many of a similar kind.

As Sergeant Jiffkins' fitness for his position is being inquired into, I think it right to mention that he was engaged as scorer at the last meeting of the Rifle Association, and was under my orders. I had to find fault with him several times for breaches of orders in allowing men to fire when the danger flag was "up" at the firing-point; not putting up the flag when firing had ceased for the time being; allowing non-competitors to crowd around the firing-point, and other such acts. I spoke to him, but got only surly and disrespectful replies. I eventually reported him to Mr. Tideswell and Major Strong, and recommended him to be relieved from the duty of scoring.

I have found him an obstinate and cross-grained man whom, unless allowed to have his own way, most people will find it difficult to work with.

I have, &c.,
M. TUITE, W.O.

[Private.]

Dear Sir, West Maitland, 17 May, 1888.

Staff-Sergeant Jiffkins called upon me this week, and from what I could gather from him, is under the impression that he is rather under a cloud with the authorities, and wished me to drop you a line private, asking your favourable consideration.

Jiffkins, whilst stationed in this district, was very steady, sober, and industrious, but rather self-opinionated. When he first came here he was rusty and old-fashioned in his drill, and required brushing up a bit. He was respectful to his officers, and well spoken of by the Quirindi officers and Tenterfield. No doubt he will have opportunities of improving in his drill at headquarters.

Yours, &c.,
ALEX. WILKINSON, Lt.-Col.

Colonel Eden, Sydney.

Memo. from A.A.-G. to O.C.M.W. and S.D.R.

22 May, 1888.

SERGEANT JIFFKINS to be informed that his services will not be required after the 30th June. To enable this N.C.O. to look about for suitable employment from that date, Lt.-Col. Eden is empowered to grant him leave from time to time as may be required.

H.D.M.

123. *Mr. Jiffkins.*] The Colonel was asked to furnish a telegram from Colonel Wilkinson? I have hunted everywhere, and these are absolutely all the papers.

124. There was also a letter that was sent by Colonel Wilkinson to the witness? I cannot trace that. The only letter we can trace from Colonel Wilkinson is the one I have read, but it is addressed to Colonel Eden, not to me.

125. *Mr. Chanter.*] What is the meaning of the term in these papers, "Cavilling at orders issued by Adjutant-Captain Bouverie";—does it amount to disobedience of orders? No; that is exactly what it stops short of. It is not absolute disobedience; it is setting himself up in judgment against the officer authorised to give the instruction.

126. I suppose you would almost look upon that as an actual case of insubordination? It is trenching so close upon it, especially in the case of a man occupying the responsible position of staff-sergeant, that it would have to be taken notice of.

127. The term is so wide that the Committee would like to know what degree of crime it was? Evidently it was not a very serious degree, because the General contented himself with administering a caution. It was sufficiently grave for the General to administer a caution, showing that the order was not as readily and cheerfully obeyed as it should be.

Colonel Charles Fysshe Roberts recalled and further examined:—

Colonel C. F. Roberts. 22 July, 1896.

128. *Mr. Moore.*] When Sergeant Jiffkins was being examined the other day with reference to the addition you made to the charge of tampering with official records, I said to him that it appeared that the addition was made in his presence whilst he was being dealt with for making a false statement; he said that he did not know of the addition until afterwards, and that he was never examined on that charge; I reminded him of your evidence on that point, and he swore that your statement was false;—I would like to ask you to reply to that? I altered the charge and read it out to him. Then this evidence was again gone into. This evidence absolutely proves that he was taking notes from the register.

129. He having been informed of it, and being perfectly aware of it at the time the investigation was going on, had he every opportunity of replying to that additional charge of tampering with official records? Yes, certainly. I think Colonel Mackenzie was present the whole time, and he will bear me out that I gave every possible latitude.

130. Then his statement that he had no opportunity of giving evidence, and that he was not aware of this addition having been made to the charge, is not true? He must be labouring under a misapprehension altogether.

131. *Chairman.*] In giving evidence before this Committee, Colonel Mackenzie said, "It is utterly incorrect." That is with reference to Jiffkins' statement that he had no opportunity to answer the additional charge. He goes on to say:—

> Colonel Roberts investigated the case, and in doing so exhibited a great deal of patience. At last Jiffkins allowed his tongue to run away with him, and Colonel Roberts said, "You are wasting time if you have nothing further to say." I was present, also Captain Bouverie, Sergeant Molloy, and, I am almost positive, Mr. Tideswell.

When an addition is made to a charge it is read over to the accused person. If the evidence shows that a man has been guilty of a second crime, that is added to the charge, and read out to him, and it is said, "the charge now is so and so." To the very best of my recollection that was done when the case was before me. I remember that there was a great deal of time taken up. The reason why Colonel Mackenzie made that statement was that Jiffkins had then begun to make charges against Colonel Mackenzie and others of stopping papers.

132. *Mr. Chanter.*] Do you remember this charge that was made against Mr. Jiffkins at Inverell? No; I was only taking General Richardson's place during leave.

133. Is there any official record in your department to show whether or not Jiffkins was present at that inquiry? I do not know.

WEDNESDAY,

WEDNESDAY, 5 AUGUST, 1896.

Present:—

MR. CHANTER, | MR. O'SULLIVAN,
MR. MOORE.

T. WADDELL, ESQ., IN THE CHAIR.

Mr. W. Jiffkins appeared in person on his own behalf.

Colonel Henry Douglas Mackenzie, A.A.-G., recalled and further examined :—

Colonel Mackenzie, A.A.-G. 5 Aug., 1896.

134. *Chairman.*] Do you want to correct some of the evidence which you gave on a previous occasion? Yes. After reading it over, going through the papers, and having my memory refreshed, I found that I had confused this case with another case. I said that the former crime was altered, and that it was lessened. That was wrong. I should have said that it was increased.

135. *Mr. Jiffkins.*] I will mention the names of a number of non-commissioned officers with whom I came in contact, and I would like if you could mention any of them with whom I have fallen out, as stated in evidence : Tideswell, Thompson, M'Ewan, Beauman, Murphy, Toovey, Leckey, Tuite, Liggins, Barnwell, Furnish, Mooney, Masters, Woods? Tideswell, Thompson, and M'Ewan have gone; Beauman can be called; I do not know where Murphy is; Toovey is dead; Lickie can be called; there is a report from Tuite already in the papers, and it is not very favourable; Liggins and Barnwell can be called; Furnish is dead; Mooney has gone; I do not know whether Masters has been in conjunction with Jiffkins; I think Woods has gone.

136. I will now read the following list of non-commissioned officers—Brady, Marston, Williams, Whitmore, Burns, Conway, Gover, Collier, Moyens, Wilson, Holmes, Berry, Blakeley, O'Dea, Riley, Molloy, Lee, Chidgey, Crotty, M'Donald, Rose, Ormsby, Carmichael, White, Woollams, Smith, Adams, Parker, Coleman, Macready, Melville, Gibson, Cooper, M'Cann, Garty, Brears, Sullivan, Sadler, Dransfield, Egan, Hamilton;—can you point out any of those with whom I fell out? I cannot speak from memory, I must look into the defaulter's sheet again. With regard to the cavalry, I should think Colonel M'Donald could give evidence on that subject. Mr. Jiffkins has now quoted all the non-commissioned officers during his time. A great many of them have gone away, several are dead, two or three were discharged for misconduct, and so on. It is impossible for me to speak from my own personal knowledge as to how one man gets on with another, when I have only to do with the records. We can only go upon the reports, which show that he was not a *persona grata* with any one of them. I was asked to produce the registers, from one of which Jiffkins was charged with making extracts, not mutilating them. I produce these registers now from which Staff-Sergeant Jiffkins was accused of making extracts. I do not know which one.

Mr. James Henry Watson called in, sworn, and examined :—

Mr. J. H. Watson. 5 Aug., 1896.

137. *Mr. Jiffkins.*] Were you the officer commanding the Hunter's Hill Reserve Company? Yes.

138. How long was I under your command? Six months.

139. Was I ever late or absent, or under the influence of liquor during the six months I visited Hunter's Hill? No.

140. Was my manner or demeanour in any way offensive or disrespectful on parade or afterwards? Not the slightest.

141. *Mr. Moore.*] What year was that? In the beginning of 1888.

142. *Mr. Jiffkins.*] Did I possess the confidence of both officers and men, and did I pay respect to you and the others? Yes, certainly.

143. How did I stand with regard to my qualifications as drill instructor, as compared with other sergeants who attended at Hunter's Hill? I think you were a very good drill instructor, and painstaking in attending to details. You were one of the best instructors I have ever had.

144. Did I ever laugh at the men if they made a mistake, or did I make use of any improper language? Certainly not.

145. Would you explain to the Committee what meaning you attach to Regulation 55 in connection with the Volunteer Permanent Staff? I take it that all appointments, promotions, and dismissals of non-commissioned officers on the permanent staff emanate from, and must have the authority of the officer commanding the forces. That is the meaning of the word "rests" in the regulation.

146. *Chairman.*] You think that whatever takes place should be done at the instigation of Major-General Richardson under that regulation? Yes; it should emanate from him.

147. *Mr. Jiffkins.*] When I was a prisoner before my officer, and he said, "you are remanded to higher authority," what does that mean? It means that the case is to be dealt with further by the higher authority. It is not a determination of the case.

148. Would the higher authority be Major-General Richardson? The Officer Commanding the Forces.

149. On the latter part of page 1 of the printed papers, the Colonel Commanding the troops, writing to the Principal Under Secretary, says, "He, as the evidence attached proves, was discovered taking notes from a record-book, with which he had no business. Much annoyance has been caused from time to time by information being furnished to persons outside the Military Branch on military matters." Do you think that refers to me? I can give the opinion that I think it means that Staff-Sergeant Jiffkins has been dismissed for conveying information on military matters to persons outside.

150. During the time that you commanded the Hunter's Hill forces was it commonly talked about that a certain individual in connection with the staff was the correspondent of the *Sunday Times?* I do not see that I can answer that question. I have heard a name mentioned.

151. *Chairman.*] Did that rumour refer to any other person? It was generally believed that a great many things that appeared in the papers must have come from a person altogether different to Staff-Sergeant Jiffkins.

152. Were they attributed to him? No.

153. *Mr. Jiffkins.*] Can you give the Committee any information with reference to that matter, or with reference to anything that I have failed to ask you outside of that? No; I have never heard your name mentioned in the slightest degree in connection with any newspapers. I have heard military men talking

Mr. J. H. Watson, 5 Aug., 1896.

talking over things that I have read in newspapers, and they arrived at the conclusion that they came from an altogether different source, but there was no evidence whatever to implicate any person.
154. *Mr. Chanter.*] During the six months that you were in charge of this force, did you have any opportunities of judging Jiffkins' conduct? Yes; I was for some years in the force, and I had many opportunities of judging of Jiffkins' conduct. I have always found him most respectful; very careful in detail drill. He was very painstaking, and he treated the men in a much better manner than many drill-sergeants. I considered him a very painstaking drill-instructor.
155. *Mr. Jiffkins.*] Did you also have experience of my conduct in camps? Yes.
156. *Mr. Chanter.*] Do you know anything personally of this charge of making an extract from a register? No.
157. If an extract was made by any warrant officer from the register, would that be considered by you to be a serious offence against the military regulations? The register contains letters that come under the notice of every person in the office. I do not see anything of a particularly private nature in them. They are only on regimental matters that anybody in the office can look at.
158. If the contents of the register was considered to be anything of a private nature, would it not be locked up in some more private place than a lavatory, and would it not be in the care of some official? I presume it would be in the Adjutant-General's office, and not in the staff-sergeant's office, or orderly-room. The lavatory was public to everyone. Anyone could look at the register, and no blame would be attached to him.
159. Would the lavatory be open to visitors to the barracks? No; it would be confined solely to the military officers.
160. *Mr. O'Sullivan.*] Have you formed any opinion of this case as to the reason why Mr. Jiffkins was treated in this way by the military authorities? I have read through the papers in the former case, and I have formed the opinion that Staff-sergeant Jiffkins was treated harshly. My impression is that the origin of the case was at Maitland, where another non-commissioned officer was implicated. The great mistake was in allowing the two men to remain together; they ought to have been separated. My impression is that the other staff-sergeant whose name is mixed up with this case was more to blame than Jiffkins.
161. I presume you refer to Sergeant Barnwell? Yes. I do not know him, but I have come to this conclusion from reading the papers.
162. Was his conduct whilst in connection with your corps very satisfactory? Yes.
163. Did you notice anything irritating or peculiar about his manner that would be offensive to other people? No; he was most respectful to me and the other officers and the non-commissioned officers.
164. As a man of military knowledge—putting the very worst aspect on the case, and supposing that Jiffkins did copy something out of these books—do you think that would be an offence of a very serious character? It would depend entirely upon the nature of the book. If it was any of the ordinary books found in a regimental office, I do not see that there would be anything in it at all.
165. Look at the registers and see if they are of sufficient importance to justify such a serious step as the dismissal of a staff-sergeant for copying from them? I find that they are registers of correspondence passing between officers commanding companies and the regiment. Staff-sergeant Jiffkins at this time was attached to the reserves. They are scattered all over the country; all inquiries must go through the head office, and they go into the orderly-room. Every letter is registered in this book, but they only deal with regimental matters.
166. *Chairman.*] You said something about correspondence passing between officers;—would correspondence with reference to officers holding inferior positions be shown in these books. Supposing one officer over Sergeant Jiffkins had been then making a complaint about him to a superior officer, would anything of that kind be shown in the book? No; it would not go into this book. That would go from the regiment to the head office.
167. Do you think that nothing of a private character would be shown in the book? No; I never knew anything in the books kept in the regimental officers quarters to be of such a nature that they should not be public. There is nothing in them of a private nature.
168. *Mr. O'Sullivan.*] Would the fact that these registers found in a lavatory near the orderly-room indicate that they were of no great importance? I should say they were not important, and that the books were only placed there for future reference. I do not see that it would be wrong for one to make an extract from them. If I have omitted to take a note of something, I have gone to the orderly-room, and with the permission of the staff-sergeant, I have copied what I wanted.
169. You say with permission? Yes; the sergeant has opened the books for me.
170. Would Staff-sergeant Jiffkins have had any right to open the books? They are open to all staff-sergeants. They are all written in by staff-sergeants in the office.
171. *Mr. Moore.*] Was Jiffkins in such a position at the time he was under your command? During the time he was attached to my company he drilled the company at night, and he was at the Phillip-street offices during the day.
172. At the time it is alleged that Jiffkins tampered with this book, was he then in such a position as you speak of;—was he one of the sergeants who had to keep these books? I cannot say.

Major Charles George Norris called in, sworn, and examined:—

Major C. G. Norris. 5 Aug., 1896.

173. *Chairman.*] What is your occupation? Retired from the Military Staff.
174. *Mr. Jiffkins.*] Were you in the Imperial service? Yes.
175. For how many years were you Adjutant of the Second Regiment? Ten years.
176. Did you know me all the time I was on the Staff? I cannot say all the time.
177. What year did you leave under Colonel Eden? 1891.
178. Can you mention any non-commissioned officer with whom I could not agree during that time? Not to my knowledge.
179. Did you ever hear that I was rude or disrespectful to anyone? No.
180. Did you look upon me as truthful, honest, and diligent? Yes; I had no reason to find any fault with you.
181. Were you President of the Board which passed me in my examination as instructor? Yes.

Major C. G. Norris. 5 Aug., 1896.

182. I wish to refer you to page 22 of the printed papers, where I am accused of want of knowledge in detail or explanation;—in your opinion is that a correct report? No; because I should not have passed you, and the Board would not have passed you if that had been the case.
183. After passing my examination would I have improved instead of going back in the drill;—after a man has passed his examination does he not improve himself? Certainly that ought to be the case.
184. Do you not think that if the Volunteer Permanent Staff require twenty sergeants as instructors I should be one according to my military experience and qualifications? I think your passing the Board, of which I was president, is sufficient answer to that question*.
185. In the event of any staff officers being required as instructors, would not my qualifications entitle me to be considered one of the first rank? Yes.
186. Have you some knowledge of the old registers that were kept in the lavatory? Yes, if they belong to the reserves.
187. Do they contain anything of a confidential character? No.
188. *Chairman.*] Would the fact of Jiffkins being found taking notes from them be considered an offence to the service? Certainly not—they are open to everybody in the office.
189. As they were in the lavatory, would that fact in itself indicate that they were put there as books of no importance? They simply wanted to get rid of them out of the office, and they were put in the lavatory to make room.
190. Would the fact of Staff-sergeant Jiffkins taking a note from them be an offence? Certainly not, to my mind.
191. *Mr. Jiffkins.*] When employed in the office, and having to make out a return of Government property in charge of the Reserve Rifle Company, Fairfield, would it not be necessary for me to go to the books in order to make out that return? Certainly; that is the only way to get it.
192. Was it possible for the outside public to go into the lavatory and use these books? I fancy not. There was always a messenger in the place.
193. Were they under lock and key in the lavatory? No.
194. I wish you to look at page 13 of the printed papers, where there is a minute signed by Barnwell, dated 22/1/89. In your experience as an officer, would an apology be sufficient to meet such a case? It is a breach of discipline, and I would put him under arrest.
195. *Chairman.*] Was Barnwell under your authority? Yes; for the same six months.
196. *Mr. Jiffkins.*] I wish to refer you to page 16 of the evidence given before the previous Select Committee;—having read question 382, what would be the result if such an offence was proved of making out a railway pass? It would have to be inquired into.
197. If you had been dealing with the case, would you have let him off without taking more notice of such an offence? Certainly not.
198. I now wish to refer you to page 23 of the printed papers. It is stated there:—

A.A.G.,—I have read the G.O.C.'s remarks to S.C.S. Jiffkins, and he says that he has learnt that there has been an addition made to the crime against him since he was before Colonel Roberts. 2. S.C.S. Jiffkins states that if certain efficiency money has been paid to certain men of rifle reserve companies it is wrongly paid, and is known by Mr. Barnwell, W.O.; and in other cases if it has been paid, it is doubtful. Whilst I was taking this down, Mr. Barnwell called S. C.S. Jiffkins a mischief-making cur. He also called him a thing. S.S. Jiffkins states that on a previous occasion Mr. Barnwell stated in my presence that he hated him.—C. Bouverie, Captain Cg. M.W., S.R. 5/4/92.

If that had occurred in front of you when a report of this sort was being made, what would you have done with the offender? I would have put him under arrest.
199. Is it not the rule and custom that, when a warrant officer has a complaint against his sergeant, to bring that sergeant before his officer? Yes.
200. If the complaint or offence was serious, would not that officer cause the arrest, and not the warrant officer; for instance, you had Sergeant-major Murphy under you;—if he had any complaint to make against the sergeant, would he not bring that sergeant before you, and would it not be for you to say whether he should be placed under arrest? Certainly.
201. What do you understand to be meant by the word "remand"? Sent back.
202. To appear before somebody else? Yes.
203. I wish you to refer to the evidence taken by the Select Committee, question 360, where Colonel Roberts says, "to a higher authority";—what would that mean? I cannot tell what was in Colonel Roberts' mind.
204. Who is the higher authority in the matter, according to the rules? Major-General Richardson. That is what is in my mind.
205. *Mr. Moore.*] Would not the Minister at the head of the Department be considered the higher authority? Yes; the highest.
206. Would not the Minister or the Governor be the higher authority? Certainly.
207. *Mr. Chanter.*] Does it not mean some authority higher than Colonel Roberts? Yes; the General, the Minister, or the Governor.
208. *Mr. Jiffkins.*] At question 333 there is the following:—"Then it is not true that he had not an opportunity of defending himself? I do not know whether he had before the General afterwards." Does not that imply that I was remanded to the General? It certainly appears so from that.
209. I direct your attention to the following extract from the papers:—

G.O.C.,—Sergeant Jiffkins was brought up before me as Acting Comdt. in your absence, and cautioned the first time that from previous cases brought against him he would not get another chance. He appeared again before me, to the best of my recollection, for a grave case of tampering with official records (as the papers are at the M.S. office, I am stating to the best of my recollection). His case was forwarded to you, and I was informed I was to deal with it.—Chas. F. Roberts, Colonel, O.C.A.F., 30/4/92.

To whom does the word "you" refer to there? That is the General.
210. If a warrant or non-commissioned officer brings another man up three times within three months in succession, does not that show that there is some spite in connection with the matter? He might have deserved it. It is impossible for me to answer a question like that.
211. *Mr. Chanter.*] In the event of visitors going to the office—civilians not connected with the force—could they not, by permission, use this lavatory? Yes, certainly. It was in general use for the whole of us on that floor.

212.

*Note (*on revision*):—I can only speak for the time I passed Jiffkins—it is impossible to do so for the present time.—C. G. Norris.

212. If a civilian attempted to open those registers lying there would he be interfered with by the messenger? Certainly. Anybody who saw him would stop him at once. Major C. G. Norris. 5 Aug., 1896.
213. Would anyone connected with the forces, having the use of the lavatory, be interfered with by the messenger if he opened the book? No.

Mr. Arthur Herbert Collis, Deputy-Comptroller of Prisons, called in, sworn, and examined:—

214. *Chairman.*] It appears that when Mr. Miller was Comptroller-General of Prisons, he wrote a confidential letter to Colonel Roberts with reference to an anonymous letter sent to Mr. Miller by Staff-sergeant Jiffkins; have you that letter? It did not occur while Mr. Miller was Comptroller-General, but previously. It appears that some prisoners were quarrelling, and Warder Jiffkins reported the matter to the Governor of the Gaol. The prisoners were punished, but Jiffkins did not seem to be satisfied with the punishment, and he wrote an anonymous letter to the Comptroller-General, simply stating the facts as to the treatment of the prisoners. This letter was subsequently acknowledged to be written by ex-Warder Jiffkins. The letter is as follows:— Mr. A. H. Collis. 5 Aug., 1896.

Sir, H.M. Gaol, East Maitland, 26 February, 1882.

Two prisoners, J. Jurley and William Fox, charged by a warder with attempt to murder, and prisoner Edhall with attempt to murder and threatening to murder a prisoner named Frederick Paton. Paton admitted into hospital. Occurred at 11·30 a.m., and told off by the gaoler at 1 o'clock p.m. this day. Punishment:—The two former prisoners with seven days' cells and three months' indulgences stopped; the latter, seven days' cells. Two other prisoners assaulted; chisels and planes freely used, and occurred in carpenter's shop.

Justice to prisoner and warder.

The Comptroller-General of Prisons, Sydney.

215. Do you put in that letter as the anonymous letter written by Jiffkins, and subsequently acknowledged by him? Yes; this matter has been before two Ministers of Justice. Jiffkins expressed his regret, and acknowledged having written it. The decision in the case was as follows:—

The default, or rather offence, of Warder Jiffkins is one calling without question for dismissal. On no consideration would I retain in the Service an officer who would write an anonymous letter. As Jiffkins has a clean sheet I will give him the option of resigning, which will leave him in a better position for his future elsewhere than dismissal.

216. *Mr. Chanter.*] The offence was for writing an anonymous letter, more than the subject matter? In the Service it would not do for officials to write behind the backs of their superior officers. If there is a complaint to make, there is a proper way of doing it. It would never be tolerated in a disciplinary Service like ours.
217. *Mr. Moore.*] You had nothing else against him? It says there that he had a clean sheet. I know of nothing else against him.
218. *Mr. Chanter.*] What followed? He resigned, and his resignation was accepted.

Mr. George Lynch Hill called in, sworn, and examined:—

219. *Chairman.*] What is your occupation? Locker in the Customs. Mr. G. L. Hill. 5 Aug., 1896.
220. *Mr. Jiffkins.*] Were you the officer commanding the Tenterfield Company when I was drill-sergeant there? Yes.
221. How long was I under your command? About six months.
222. Was that prior to my going to Inverell? Yes.
223. During the time I was under you, was I ever late or under the influence of drink at any time? No.
224. Was my manner or demeanour in any way offensive, disrespectful, or rude, or was it outside the conduct of the general run of drill-sergeants? No.
225. Was I as respectful after parade as my position allowed? Yes; always.
226. Did I possess the confidence of the men as well as yourself at Tenterfield? Yes.
227. How did I stand with regard to my qualifications as compared with any other sergeant? I think you were perfectly competent as a drill instructor.
228. While I was at Tenterfield did I not use every endeavour to advance the company in the interests of the Service? Yes; you were a very painstaking, earnest, drill instructor.
229. Did I ever laugh at the men if they made a mistake, or did I make use of any improper language? No.
230. In the case of any offence, who would have the final decision under the regulations? The senior and superior officer of the Volunteer Forces.
231. At the time would that be Major-General Richardson? Yes.
232. Do you remember the opening of the railway at Tenterfield? Yes.
233. That occurred during the time I was there? Yes.
234. Did you receive a letter from the Commander-in-Chief with reference to the Governor's escort? Yes.
235. Who was the man who was the means of bringing the parade to perfection in the way mentioned by the Commander-in-Chief? I should say that any efficiency shown was due to the drill instructor.
236. Can you give the Committee any other information with reference to my ability or character at Tenterfield? I consider you an efficient and painstaking drill instructor, and certainly not quarrelsome. I never heard of any disagreement between yourself and the men, and I had none whatever.
237. Have you observed my conduct in camps also? Yes.

THURSDAY, 13 *AUGUST*, 1896.

Present:—

MR. CHANTER, | MR. O'SULLIVAN.

T. WADDELL, ESQ., IN THE CHAIR.

Mr. W. Jiffkins appeared in person on his own behalf.

Mr. William Jiffkins called in and examined:—

Mr. W. Jiffkins. 13 Aug., 1896.

238. *Chairman.*] Do you want to add anything to your evidence? I wish to direct the attention of the Committee to certain questions and answers given in the evidence before the previous Select Committee: Question No. 100, No. 28, No. 67, No. 172, No. 175, No. 213, No. 215, Nos. 307, 309, Nos. 308, 352, in connection with evidence given by myself, Barnwell, and Colonel Roberts; No. 27, No. 183, No. 263, No. 302, Nos. 309, Nos. 346, 348, No. 85, Nos. 109 and 115, in connection with piece of paper with certain figures on it, the evidence given before the present Select Committee.

WEDNESDAY, 19 *AUGUST*, 1896.

Present:—

MR. A. CHAPMAN, | MR. O'SULLIVAN.

T. WADDELL, ESQ., IN THE CHAIR.

Mr. W. Jiffkins appeared in person on his own behalf.

Mr. William Jiffkins recalled and examined:—

Mr. W. Jiffkins. 19 Aug., 1896.

239. *Chairman.*] Do you want to make a statement? Yes; I wish to refer the Committee to the question of the remand. It will be found in the old Select Committee Report, in my evidence, questions 62, 63, 64, that I was remanded to Major-General Richardson, the higher authority. Then I wish to refer to questions 265, 266, Mr. Barnwell's evidence. The point is, that I stand remanded at this present time, according to Colonel Roberts' decision, and the evidence I am able to produce with regard to what took place on the 25th February, 1892.

240. You were brought up on the 6th April? Yes; and dismissed by order of the Government—the Major-General being the mouth-piece of the Government.

241. Were you not remanded and on the 6th April the case came on again? No; my case was not heard on that date. I was not allowed a hearing on that occasion. Then I wish to refer to Barnwell's evidence, questions 265 and 266. That evidence shows that I was remanded until the return of Major-General Richardson. I refer to Colonel Roberts' evidence, question 330. He says there distinctly that he will report the matter to a higher authority—that is, Major-General Richardson. Then I wish to refer to questions 360, 333, 359. It is stated there that I had ample opportunity of proving otherwise; but when I was brought before General Richardson in April, 1892, I had no opportunity of saying anything in my defence. Now I wish to refer to a letter, 30/4/92, from Colonel Roberts to the Commandant, on page 26 of the printed papers. Although Colonel Roberts remanded me, he at the same time wrote out a recommendation for my dismissal to Sir George Dibbs, although I was remanded to General Richardson. I now wish to refer to question 82, before the new Select Committee, and question 101. There is no doubt Colonel Roberts could not have dismissed me at the time he submitted my case to the Colonial Secretary. I wish to refer to Mr. Watson's evidence, questions 145, 146, 147, and 148, also Major Norris's evidence on that matter, questions 201 to 208 inclusive, and 290, also Captain Hill's evidence, questions 230 and 231. I wish to draw attention to Colonel Roberts' evidence, question 330. There he says, "As well as I remember, on the very day Jiffkins was before me I wrote a letter to the Chief Secretary"; that was after he remanded me. I wish to comment strongly on that. He told me when I was before him that I was remanded until Major-General Richardson's return; but he at once recommended me for dismissal to Sir George Dibbs, which was acting contrary to Major-General Richardson's instructions.

242. Where did Major-General Richardson disapprove of that? At page 4, paragraph 2, of the printed papers, he says: "Seeing the long continued friction between W. O. Barnwell and this N.C.O., it would perhaps be well to transfer him, and thus give him a final chance of re-establishing himself.—J.S.R., M.-G., 28/1/92."

243. Was not that in connection with another trial? No; it was in connection with this very trial. Major-General Richardson was put in possession of these facts (*see* page 3 of the printed papers, letter dated 8 Jan., 1892), and he wrote in that way to the Acting Commandant; and Colonel Mackenzie, in the second Select Committee, question 24, says that Colonel Roberts had that very letter in front of him when he made that recommendation.

244. So you contend that General Richardson, as head of the Force, was not in favour of your dismissal at all? Most decidedly. What I have quoted shows that he was not in favour of it. That memo. was kept for twenty-five days by Colonel Roberts, and no notice was taken of it. Had that memo. of General Richardson's been acted upon, the last case would not have occurred. The General there recommended that Barnwell and myself should be separated. Mr. Watson, in his evidence, questions 160 and 161, said that it was a mistake to keep us together. Colonel Wilkinson wired to the A.A.G., and also wrote a letter which he gave to my wife, at Maitland, to be delivered to the A.A.G., at Dawes' Battery, for me to remain in Maitland under Colonel Wilkinson's orders. The A.A.G. says that he cannot find these two communications. It is not likely that he can, because they are very strongly in favour of my being kept separate from Barnwell. On April 10th, at the camp, Colonel Eden took me before the A.A.G.—that was after I had been transferred to Sydney from Maitland—and recommended that I should be sent back to Maitland. On the 23rd June, 1890, it was recommended by Colonel Eden, by letter, that I should be sent back to Maitland. This is the A.A.G.'s reply: "I do not see, in the face of antecedents, how this can be recommended." I consider that the antecedents are altogether opposed to that view, and that I should have been sent back to Maitland. I was serving under Barnwell at this time. I was brought up by Barnwell

at

Mr. W. Jiffkins. 19 Aug., 1896.

at every possible chance, and Colonel Eden saw that Barnwell was determined to get me the sack, and he recommends that I should be separated from him. I wish to point out that Colonel Spalding, on the 17th April, 1891, twelve months before I was dismissed, said to the A.A.G.: "Transfer this man from Barnwell, for I can see he is determined to get him dismissed." That is exactly twelve months before Barnwell effected his object. Colonel Spalding, Colonel Eden, and Colonel Wilkinson all said the same thing. I blame this entirely on Colonel Mackenzie, in favouring Barnwell against the interests of the Service, because in spite of all these representations he was responsible for keeping us together. Colonel Roberts and Barnwell say that Colonel Mackenzie was responsible for keeping us together after this bother. I wish to refer to questions 317 and 318 of the old Select Committee, when I was before Colonel Roberts, and he told me that that was my last chance. I told Colonel Roberts that it was impossible for me to serve under Barnwell. I pointed out to him that, after he told me this was my last chance, as soon as I got outside the door Barnwell was in a position to bring me back before Colonel Roberts on a charge that I was disrespectful, or on any other charge, and then my means of living would be gone. I was kept under Barnwell in order to get me out of the Service. Colonel Roberts has made reference to my having a lot of records, and that I gave a lot of trouble. I wish to refer to Colonel Roberts' evidence before the new Select Committee, question 88. He was asked what character I bore in the Service. He said: "Decidedly an indifferent one, if not to say bad; he was perpetually being complained of." In question 89, he says, that I was of an insubordinate tendency. I wish to point out that Colonel Roberts had a very limited knowledge of the facts. In question 98 he said he was only acting for a month or six weeks while General Richardson was away, and that all the previous acts were unknown to him; then, in question 326, before the Select Committee, he said that the first time he saw me was on the occasion of the inquiry on the 12th January. Now, I wish to refer to Colonel Mackenzie. In question 122 before the new Select Committee, he says: "Sergeant Jiffkins' character throughout was perfectly consistent. We have had nothing against his moral character, but he has been unable to agree with those he has been brought in contact with, especially the other members of the Staff." It will be remembered that I read out the names of all the members of the staff with whom I had been brought in contact, and I asked him if he was able to state definitely if there was one of them with whom I could not agree. In reference to the same matter I wish to refer to the evidence of Major Norris, who knew me better than Colonel Mackenzie did.

245. *Mr. O'Sullivan.*] Is it a fact that you were generally disagreeable to your colleagues? I was disagreeable to those who I found did not do right according to my military experience. Colonel Roberts in his evidence said that there were a great many charges against me. With regard to the charge of laxity and want of zeal, Colonel Roberts stated, in answer to Mr. Chanter, that that charge was illegally made. Then the next charge of insolence is also an illegal record.

246. *Chairman.*] What do you mean by an illegal record? Mr. Chanter asked Colonel Roberts: "Was it in the power of Barnwell to place me under arrest without bringing me before another officer?" Colonel Roberts said, "No;" and that if Barnwell brought me down to him without bringing me before another officer, he would send me back again. The charge was illegal because it had not gone through the proper channel. The charge of neglect of duty is in the same position. Barnwell placed me under arrest himself without consulting anyone.

247. How many charges did Barnwell prefer against you? He was the accuser in every instance; but three of them are entered which have no right to be entered, according to the evidence of Colonel Roberts and Major Norris.

248. Of the six charges preferred against you, did Barnwell make them all? No; he made five of them; and the charge of general laxity and want of zeal was made by Major Macdonald. Barnwell made five charges—four in ten months; and he made three charges in three successive months. Colonel Roberts was asked, was there any favouritism shown to Barnwell? I wish to point out distinctly that there was a lot of favouritism shown to Barnwell in this matter. I refer you to questions 20, 21, 22, containing the evidence given by Colonel Mackenzie before the new Select Committee. His evidence is so worded as to deceive the Committee, and it is done of course to shield Barnwell. I now wish to refer to the letter of the 25th February (page 1 of the printed papers) written by Colonel Roberts to the Principal Under Secretary, on which I was dismissed. He writes: "I have the honour to bring to the notice of the Colonial Secretary a case of gross breach of duty on the part of Sergeant William Jiffkins, of the Permanent Staff, who also, when before the officer (Captain Bouverie), who is in charge of the records of the Reserve Corps, made a false statement." I maintain I made no false statement, and there is no evidence to show that I did make a false statement. He then goes on to write: "I regret to trouble the Minister at the head of the Department in a case of this nature, but the sergeant has given so much trouble." This trouble is in reference to the charges I have brought to your notice which were illegally made by Barnwell. It is entirely wrong to say that there were so many records against me. I know that there are records, but they have no business to be there—good, bad, or indifferent. The letter goes on to say: "He, as the evidence attached proves, was discovered taking notes from a record book with which he had no business." Now, I say that I took no notes from the record book, and the Committee has had before it gentlemen who know more about those records than Colonel Roberts or Colonel Mackenzie do. I refer to Major Norris and Captain Watson, who know more about these books than all the other Staff officers put together.

249. *Mr. O'Sullivan.*] Why do they know more about them? Because Major Norris was employed in the office.

250. Why does Captain Watson know more about them? As captain of the company at Hunter's Hill, he had to come down to the reserve office very often to seek for information. As he said the other day, there was nothing confidential in any of those books. Evidence has been given that I had a perfect right to go to any one of these books at any time, and that I had a perfect right to take notes from any of the books that I thought fit.

251. *Mr. Watson.*] What is your explanation with regard to the writing on a piece of paper that was found in your pocket? I do not know when that was written on the paper; I do not know whether it had been in my pocket for a week or a month. I was ordered to take the papers out of my pocket, and I took out some tram-tickets, a knife, a match-box, and this little bit of paper with the date written on it, "22/4/89."

252. *Mr. O'Sullivan.*] Did you write those words on that bit of paper? I wrote them, but not on that occasion.

Mr. W. Jiffkins. 19 Aug., 1896.

253. Was there anything in the book which had any bearing upon it? Not the slightest that I know of. In the latter part of Colonel Roberts' letter he says: "Much annoyance has been caused from time to time by information being furnished to persons outside the Military Branch on military matters, and I bring the case to the notice of the Colonial Secretary in order that, in addition to the dismissal of this non-commissioned officer, some expression of grave displeasure may also be recorded, as this would serve as a strong warning to other non-commissioned officers in responsible positions." I have brought before the Committee two witnesses to show that they never knew of my being accused of such a thing in the slightest degree, and they gave evidence to the effect that the man who was in the habit of doing that is still in the employ of the Military Staff.

254. *Chairman.*] Do you know anyone named Bruce? Yes; I never had any trouble with him. The wording of the letter which I have quoted would lead anyone to the conclusion that I was caught taking notes with the view of giving information outside. I asked Colonel Roberts to produce any evidence to bring that home to me; but he simply laughed and said the letter did not refer to me at all. Mr. Watson, Mr. Hill, and Mr. Norris said that the whole of the letter referred to me, and that is what makes my case look so bad. I say there is no evidence to prove that, and that there is evidence to show that the man who did this is still employed in the Staff office; therefore, I contend that the whole of that letter should be scratched out, and that the General Order referred to there should be countermanded.

Sydney: Charles Potter, Government Printer.—1896.

1896.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

CASE OF STAFF-SERGEANT W. JIFFKINS.

(PETITION FROM WILLIAM JIFFKINS, OF SYDNEY, PRAYING TO BE REPRESENTED BY COUNSEL, ATTORNEY, OR IN PERSON, BEFORE SELECT COMMITTEE ON.)

Received by the Legislative Assembly, 9 *July*, 1896.

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The Petition of William Jiffkins, of Sydney, in the Colony of New South Wales,—

HUMBLY SHOWETH:—

That on the 30th June, in the year of our Lord one thousand eight hundred and ninety-six, your Honorable House appointed a Select Committee to inquire into and report upon the dismissal of Staff-Sergeant William Jiffkins, Volunteer Permanent Staff.

2. That your Petitioner humbly prays that he may be represented by counsel or attorney, or in person, before the Select Committee appointed to inquire into and report upon the said matter, with the right to call witnesses and adduce evidence, and to examine and cross-examine such witnesses as may give evidence before the said Committee.

And your Petitioner, as in duty bound, will ever pray.

WILLIAM JIFFKINS.

Sydney, 9th July, 1896.

[3*d*.] 225—